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TOWARD AN UNDERSTANDING OF THE CYCLICAL FORMATION OF PUBLIC OPINION: PRESIDENTIAL APPROVAL RATINGS AND PUBLIC OPINION POLLS

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TOWARD AN UNDERSTANDING OF THE CYCLICAL FORMATION OF PUBLIC OPINION: PRESIDENTIAL APPROVAL RATINGS AND PUBLIC OPINION POLLS

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Dedication

This dissertation is dedicated to the three most important persons in my life.
First to Sungahn Hong, my father, and Eunsoon Park, my mother, who supported my dreams and never doubt that I could achieve them.
And, to my wife, Soonsik Jern, for her loving presence and enduring faith.

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The goal of this study is to explore the influence of the news media on the cyclical formation process of public opinion with the case of presidential approval rating from the last forty years. To explore this relationship empirically, this study investigates the historical fluctuations of presidential approval ratings, which have been regularly measured since the 1950s, and how the *New York Times*' presentation of the ratings has itself influenced public opinion on presidential popularity for the last forty years.

To explore the causal relationship between the *NYT* and a series of presidential approval rates in two-ways, this study suggests two hypotheses of investigating the influence of *convergence* and *change* in presidential approval ratings on the *NYT* and two hypotheses of testing the additive/subtractive effect and volatility effect of the *NYT* reports on the following approval rating. The analysis of the relationship is conducted by using two statistical methods: First, in order to test the two hypotheses of investigating the influence of *convergence* and *change* in presidential approval rates on the *NYT*'s decision to report the approval rates, this study applies the quadratic regression model. Next, the influence of the *NYT* reports on the subsequent approval rates is investigated by applying time-series models.

The statistical tests confirm that there exists a reciprocal relation between the *NYT* reports and public evaluation of presidential performance, and the relation results in the intensification of majority opinion and the increased volatility of public opinion. The findings of this study show: first, media sensitivity to a given issue varies over time: the *convergence* and *change* in public opinion raise the salience of the given issue; second, news selection does matter: news media provide unambiguous information but they are not an exact sample of the population; third, a simple cue makes a difference in individual statistical sense of the climate of public opinion. This study concludes that public opinion influence media attention, which, in turn, affect public opinion at a later date.

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Chapter 1. Introduction: Polls and Presidential Popularity

> The essential need…is the improvement of the methods and conditions of debate, discussion and persuasion. That is the problem of the public.
> – John Dewey, *The Problem of the Public*

> Having chosen a way of life which consults the mass of the people in the formation of policy, we must listen to what the people themselves to say, for public opinion can only be of service to democracy if it can be heard.
> – George Gallup and Saul Forbes Rae, *The Pulse of Democracy*

Introduction

Sometimes life changes dramatically. And so does news. On June 21, 2001, the *New York Times* reported the results of a few polls which showed President Bush's approval rating at around 50 percent. This was quite a surprising number in many ways, especially considering that it was "the lowest presidential approval rating in five years" (*NYT*, 6/29/2001). About three months later, the *New York Times* reported an even more striking poll result: President Bush's approval rating was 90 percent, "the highest rating for a president ever recorded by the Gallup polling group" (*NYT*, 9/24/2001). These remarkable numbers and the dramatic changes they suggest raise two questions: first, what kind of magical

feats did the president perform in those three months? Or did any such feats even matter?

It is hard to contest the argument that the September 11th terrorist attack was the decisive factor in the dramatic rise in Bush's popularity. In other words, almost no matter what the president did in those three months, his rating would arguably have increased given the occurrence of Americans' most tragic experience ever. This phenomenon, the so called 'rally effect,' is hardly novel, based upon numerous studies of the presidency and public opinion (e.g., Mueller, 1970, 1973; Brody & Shapiro, 1989, 1991; Parker, 1995; Baker & Oneal, 2001; Gronke & Brenhm, 2002). These studies showed that the president's popularity ratings are greatly boosted in times of national crisis. In many polls about the president's job performance at these times, citizens have avoided negative evaluations of the president, thereby producing a rapid increase in presidential popularity during times of national crisis (Parker, 1995).

If this is the case, then we should ask: what did the popularity ratings actually measure? And why should the media and the public pay attention to those numbers? For example, did the previously mentioned polls really indicate Americans' approval of President Bush's handling of the crisis, or did they show Americans' own kind of emotional solidarity? Numbers do not speak for themselves. In fact, previous studies have found that the president's popularity does not simply represent public opinion of presidential performance; instead

other factors such as economic condition/expectation, the length of the president's incumbency, respondents' idiosyncratic characteristics, and even the way of asking questions are also significant indicators of the president's popularity (e.g., Mueller, 1970, 1973; Crespi, 1980a; Brody & Shapiro, 1989, 1991; Parker, 1995). Given this complicated meaning of the presidential popularity rating, its interpretation always contains a risk of oversimplification, at best, or ideological intervention when the news media present the results of polls without enough contextual information. However, in contemporary journalism, numbers are often presented as a synonym for "public opinion" (Herbst, 1993; Lewis, 1999; Lipari, 1999). In the case of presidential approval polls, no matter how imperfect the measure, the numbers are even more newsworthy to the news media particularly because they are, in effect, believed by journalists and the public to reveal the winner of the next presidential election and to indicate a "pseudo-parliamentary situation" whereby the president is judged from the imaginary electorate pointing to the political situation of the nation (Crespi, 1980a). The news media believe that the numbers provide readers with "objective" meanings about communal issues: they are used to represent the public's view of certain problems. In other words, the numbers become news because they are believed to show public opinion "objectively" (see Gallup & Rae, 1940; Verba, 1996).

This assumption of "objectivity" in the news media and social science has represented public opinion polls as a dimension independent from the ongoing

process of the construction of public opinion. But, in contrast to this assumption of objectivity, the industry of public opinion polls cannot, in nature, even be imagined as independent from the news media which are the key part of the formation of public opinion. Most public opinion polls have been conducted under contract to the news media since the early rise of scientific opinion polls, and, today, more and more polls are conducted directly by the news media themselves (Gollin, 1980; Crespi, 1980b). While many studies show that the number of public opinion polls reported by the news media has been increasing, it is somewhat surprising to note that relatively only a few studies attempted to explore the influence of published opinion polls on public opinion. It is possible that the myth of "objectivity" has led researchers to overlook the subjective influence of published opinion polls on the already objectified world of public opinions. Whether intended or not, the lack of interest in the effect of published polls on public opinion helps the news media to naturalize themselves as an invisible hand in the markets of public issues.

While there have not been many studies examining the influence of opinion polls, it is undisputable that some previous studies provide a good theoretical orientation for this project. Especially, Ginsberg's (1986) and Herbst's (1993) qualitative explorations of the ideological impact of opinion polls on public opinion both provide theoretical frameworks for this study by arguing that the public opinion poll is a symbolic tool for constructing a specific sense of the

public. In addition, Lewis' (1999, 2001) and Lipari's (1999, 2000, 2001) examinations of poll discourses should be noted for showing that the pollsters' way of framing questions serve to reify elitist ways of thinking about the issues. Also, early 'bandwagon' studies (e.g., Atkin, 1969; Mendelsohn & Crespi, 1970; see Allport, 1940) and, more recently, Noelle-Neumann's (1993) analysis of public opinion documented good empirical cases showing that aggregated public opinion is moved by the media's presentation of majority/minority opinions.

OBJECTIVES OF THIS STUDY

The principal purpose of this study is to explore the influence of the news media on the cyclical formation process of public opinion. This study will show that published opinion polls cannot simply be detached from the on-going process of shaping public opinion because they are one of the main forces constructing public opinion itself. To explore this relationship empirically, this study investigates the historical fluctuations of presidential approval ratings, which have been regularly measured since the 1950s, and how the presentation of the ratings by the *New York Times* has itself influenced public opinion on presidential popularity for the last forty years. One of the expectations from theory and previous studies on public opinion is that the responsiveness of the public to "a large number of others acting in the same direction" leads to a "bandwagon effect" (Allport, 1940, p.250). As Allport (1940) noted, perhaps this "bandwagon

effect" is "as old as the game of politics" (p.250), but one difference that public opinion polls make is that the statistical precision of polls replaces our unscientific sense of "impression" in being aware of public opinions. " Noelle-Neumann (1993) advances this old notion of the "bandwagon" effect with more sophisticated concepts of "the climate of opinion" and "the fear of isolation." According to her, we, as social beings, are afraid of being isolated from our environment, and thus we constantly observe our environments in order to avoid becoming isolated. As a part of the environmental conditions, "the climate of the opinion" leads to "polarization" of public opinion by discouraging the expression of minority opinions and encouraging the social desirability of expressing majority opinions (Noelle-Neumann, 1993).

The main goal of this study is not simply to explore the effect of the news frames in presenting the poll on public opinion; instead what this study wants to demonstrate, with this case of presidential approval rates, is the spiral process of forming public opinion, whereby we can identify the way that the news media reflect public opinion, and the presentation of the public opinion by the news media, in turn, moves the public opinion in a certain direction. If the overall process of forming public opinion follows the spiral of silence hypothesis, the investigation of the reciprocal relationship will demonstrate the significance of media's effect on public opinion in two ways. First, this study will investigate whether the media have significant effect in making public opinion more

changeable; that is, if the media make public opinion more static rather than more volatile, it is hard to argue that the overall spiral process of forming opinion is associated with the media. Second, if the overall process follows the spiral of silence, the media effect of making public opinion volatile must have directional tendencies of conforming with the public opinion they are representing; in other words, unless the media make the strong opinion even stronger and the minor opinion even weaker, the association between the media and public opinion will not result in the spiral of silence.

In this sense, expecting that the overall process of the public opinion on the presidential job performance follows a spiral process, this study investigates the media's effect on the presidential approval rates in two senses: volatility (changing variances) and additive/subtractive impact. One of the methodological challenges of this study is to show the existence of the additive/subtractive (polarization) effect of the publication of presidential approval ratings while controlling other rallying or diminishing factors on these ratings. Prior studies found that public opinion on presidential popularity is, to a large extent, determined by several factors such as economic expectation/condition, international conflicts, media coverage of rally events, personal scandals, duration in incumbency and others (Mueller, 1970, 1973, 1993; Crespi, 1980a; Brody & Shapiro, 1989, 1991; Parker, 1995; Baker & Oneal, 2001; and Gronke & Brehm, 2002, among others). After controlling for the influence of these factors, showing

that the ‘negative’ or ‘positive’ presentation of presidential ratings by the news media boosts or lowers the ratings will confirm the existence of the “polarization effect” of the media presentation of public opinion.

As for volatility, this study hypothesizes that the increased publication of presidential approval ratings by the news media is one of the critical factors explaining the increase of the volatility of the public’s opinion on presidential approval; to put it another way, as the media coverage of approval ratings has increased, the volatility of the presidential approval rates has also increased. Speaking of methodology, it is not easy to measure the effect of one variable on the dependent variable’s changing variances while controlling its own and other third variables’ *directional* impact on the dependent variable. Because of the difficulty, a conventional approach of comparing of standard deviations to document the changes of volatility is not much applicable to this study and a more innovative approach to measure volatility is demanded. Recently, Gronke and Brehm’s study (2002) shows through a time-series data analysis (a modified ARCH model) that the range of fluctuation of presidential ratings has increased over the last forty years, while controlling other variables’ impact on the mean level change of the ratings.

A specific goal of this study is to draw attention to the usefulness of a recently developed time-series method (ARCH and ARCH-m) for analyzing nonstationary data and its application to the empirical problem of tracing long

term fluctuation of public opinion. This study will apply the ARCH-m model to explore the association of the increased media presentations of presidential approval rates and the increased volatility of the approval rates.

Public Opinion

CONCEPTUALIZATION OF "THE PUBLIC" AND "PUBLIC OPINION"

The fundamental assumption behind using opinion polls lies in the belief that 'democracy' is a form of political decision-making through which the public can decide its own good. Even though now this belief is so natural that it seems needless to speak of the association of "the public" and "democracy," it is instructive to review the historical thoughts on the association for the purpose of the conceptual clarity of this study. As shown in the fact that the word, "public opinion," meaning civil judgments independent of the state first appeared during the Enlightenment era (Price, 1992), the conceptual development of "publicness" and "public opinion" is often ascribed to the philosophical framework of some Enlightenment thinkers, such as Locke, Rousseau, and Hobbes, in many senses (Palmer, 1936; Price, 1992; Fuse, 2000). It is not incidental that the concept of "public opinion" was born around the Enlightenment, when the monopolization of "natural rights" by lords and kings began to be disintegrated into "contracts"

among equal individuals. That is, the fact that a new demand emerged to refer to a word meaning 'aggregated will,' independently of authoritative figures during the Enlightenment, testifies to the fact that "public opinion" cannot even be imagined without its relation to democracy. In this study, it is important to note that the public opinion poll is just a tool for expressing public opinion in a broad historical scope of public opinion (see Price, 1992; Fuse, 2000). Here this study identifies 'a numerical conception of publicness' in the news media applying opinion polls within an overall review of public opinion and aims to show that this numerical conception is not best served for realizing the ideal we intend with democracy.

DECIDING PUBLIC GOOD IN DEMOCRACY: HABERMAS'S CONCEPTION OF THE PUBLIC

The distinction between "public" and "private" is traced back to ancient Greece where the public sphere, "polis," was distinct from the private sphere, "oikos" (Habermas, 1989; Peters, 1995). As Habermas and other political theorists point out, the city-states of Greece presented the basic idea of "the public" made up of those who were individuals as well as citizens deliberating together in the market and other open spaces. Yet not all earlier philosophies of ancient Greece held a positive concept of the public sphere. In Plato's *Republic*, for example, he disparaged a collective decision-making by the large number of people, believing that only philosophy was the right source of deciding on human affairs (Price, 1992; Fuse, 2000). Like Plato, Roman authors of the classical era

often linked public opinion to the *vulgus* (Palmer, 1936, Fuse, 2000). Greco-Roman philosophy, in general[1], referred to public opinion as *doxa*, which means a realm of prejudice, emotion, probability and authority, as opposed to *episteme*—knowledge, or science (Peters, 1995).

Having deep roots in Western political thought, this classic conception of "publicness" has changed significantly from one historical era to another. During the Middle Ages, the classical concept of publicness was replaced by the authority of public figures—kings, lords, and priests—and God. Public opinions were hardly a matter of deciding one's good and just, whereby only God and public figures representing God can present *the universal* context for one's existence. The idea of "publicness," in medieval thought, was completely missing, and only feudal lords, kings, and priests stood for what Habermas (1989) calls the "representative public sphere" (see Haas, 2000, Peters, 1995). This feudal representation does not mean that the public figures represented the people in any political decision-making process; rather it means that the public figures constituted their "publicness" by representing their bodies before the people in a visual and ritual way. That is, the feudal way of "representation" meant a realm of spectacle where individuals were not members of the public but rather simply part of the audience (Peters, 1995).

[1] It should be noted that Aristotle, in contrast to Plato, took a more favorable view of public opinion. Aristotle believed that practical wisdom, *phronesis*, accumulated from multiple

Habermas (1989) argues that this publicness represented by the public authority had been sustained until the classical conception of publicness was revived through "the liberal bourgeois public sphere" in the early modern era. According to Habermas (1989), the development of a capitalist economy in the 16th century along with the transformation of political and institutional power enabled a new way of "publicness," the bourgeois public sphere, in the early modern era. In addition, previous studies of public opinion often point out that newly emerged thoughts on the "social contract" in the 18th century contributed to the development of the modern concept of "publicness" (e.g., Palmer, 1936; Price, 1992). For example, introducing the concept of "general will," Rousseau argued that the common good or "general will" is only discernible through direct and continuous participation of free individuals (Price, 1992, p.11)[2]. Locke, in the *Essay Concerning Human Understanding*, identified three general classes of laws: the divine law, the civil law, and the law of "opinion and reputation" (quoted in Palmer, 1936, p.234). That is, by the middle of the 18th century, the classical concept of "publicness" changed from the classical meaning of the *vulgar* and irrational to the modern meaning of a sphere independent of the coercive power of the state.

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experiences of the many is an element of truth, in addition to *episteme* (see, Palmer, 1936; Peters, 1995).

[2] Palmer (1936) pointed out that Rousseau himself did not indicate specifically the relationship of public opinion to the general will: rather what Rousseau emphasized is that law can be effective only when it is based on public opinion.

Even though the public sphere of the Enlightenment was neither "open to all" nor "unconstrained" in principle, the emergence of the public sphere provided social space for people to gather and have conversation independent of the state as well as about private interests of their own. As Habermas's later linguistic analysis of communicative action (1987, 1998) shows, the theoretical underpinning for his theory on the public sphere is based on "social pragmatism," which distinctively separates him from other postmodernists' relativism in regard to problems concerning truth, rationality and, most importantly, democracy. Here an important point Habermas (1989, 1987) and Dewey (1927) emphasize is that the importance of the deliberation process in communal space is not rested on the fact that the deliberation can guarantee discovering the ultimate truth (universality); but it is valuable because participating members in the public life can produce a tentative truth (discursive universality) for facing an undetermined future in the process of sharing one's experiences and interacting with one another. In other words, the public sphere is an indispensable element of democracy in that citizens become aware of others' existences in a *concrete* way by looking, touching, listening, and talking to them so that the public sphere can put back their private interests behind consensual "public opinions."

Introducing his theory of the public sphere to the center of on-going debates on the crisis of democracy[3], one of the most important points Habermas wants to raise is that the public sphere, i.e. social space for communicative actions, is the ground for "publicness" and the "publicness" is the most important element for sustaining the modern ideals we imagine with democracy (see Goodnight & Hingstman, 1997). That is, contrary to some postmodernists who suspect and attack all universal claims of truth in favor of particular experiences and local articulation (e.g. Lyotard, 1984), Habermas (1989, 1987) reemphasizes that accomplishing a sense of "publicness" from the private domain of civil society is necessary for sustaining democracy. Habermas claims this optimistic conception of "publicness," in his word "universal pragmatism," particularly because of his belief in the nature of speech actions. According to Habermas (1987, 1998), the built-in nature of speech actions make it possible for the public to share a certain value of a social order *universally*. He argues that people's everyday linguistic actions always raise a matter of validity claims which a hearer is supposed to judge with a yes/no response: since speech acts always include more than one of three validity claims—1) speech itself, 2) the normative context of the speech, and 3) the intention of the speaker, they make it possible to bring

[3] For in-depth discussions on Habermas's view of the historical formation of the public sphere, see Calhoun (1992), *Habermas and the Public Sphere*; Goodnight and Hingstman (1997), *Studies in the Public Sphere.*

pragmatic universality[4]. In other words, Habermas claims that validity and justification are necessary pragmatic notions, supposing that validity and justification can neither rest on conditions before speech acts nor they can be explicated independently of discursive process. As Habermas (1987, 1996, 1998) emphasizes, if democracy is about making decisions for the public good in a political community, the validity and justification of the public good cannot be separated from the communicative process among the members of the community because the validity and justification of public good are not fixed on the prepositional component, but are located in the process of deliberation itself.

MODERN PUBLIC AND PUBLIC OPINION: CORROSION OF PUBLICNESS

According to Habermas (1989), the rise of the liberal bourgeois public sphere was enabled by two historical developments during the early modern era. The first development was the emergence of various public spaces for sociability, such as coffee houses and salons in early modern Europe. The other development was the growth of the literary media, particularly the critical journals and moral weeklies, which began to appear during the late 17th and 18th centuries. These

[4] Habermas (1990) offers four presuppositions of protecting the field of communication for deliberative democracy: 1) universal access, 2) reversibility of arguments, 3) entering into the conversation not by self-interest (without pre-decided conclusions), and 4) judging the validity of arguments only on grounds of rationality (regardless of social status or rhetorical ability of speakers).

developments provided a center for public deliberation where citizens[5] could interact with one another.

Yet this modern embodiment of "publicness" that resulted from the historical developments disintegrated as the early Enlightenment moved to industrialized modern society. Habermas (1989) finds the reasons of the disintegration of the public sphere came mainly from the development of the welfare state and industrialization of media industries. That is, the distinction between civil society and the state, which once had created the social space for the liberal bourgeois public sphere to emerge, began to disintegrate as the state expanded its role to the welfare of citizens. Habermas (1987) explains this paradoxical disintegration process with his own concept of a "colonization of the life world" by the system world. Similar to Weber's criticism of modernity[6], Habermas argues that the rapid "rationalization" process of the life world in contemporary society has facilitated a process of *systematic* rationalization and differentiation which becomes ironically autonomous and colonizes the life world (Bowring, 1996). He finds contemporary problems of democratic society from this colonization of the life world by the system, whereby the imperatives of

[5] Habermas (1989) notes that the liberal bourgeois public sphere was not open to all citizens in practice, instead "education" and "property" were the criteria for admission.

[6] Herbst (1993) explains Weber's criticism on rationalization as a process "in which individuals are increasingly drawn to means/ends thinking and action." "Rationalization," she continues, "is manifested in the escalating importance of technical proficiency, precision, and specialization" (p.16).

systematic (instrumental) rationality dominate communicative rationality created by the inter-subjective transactions (see Herbst, 1993).

As Habermas (1989) argues, this rapid "rationalization" process of public opinion has been conducted mainly by two big forces during the 20th century: big business and big government. First, critical scholars emphasize often that the systematic imperatives of the industrialized and commercialized institutions, especially media and public opinion institutions, have been main forces of disintegrating the public sphere (e.g. Hallin, 1985). Historians of public opinion stress that the early decades of the twentieth century hosted a rapid change in the way public opinions are formulated, expressed and distributed. Childs (1965), for example, points out that the decade 1900-1910 witnessed "the end of the field of political writers and the beginning of a broad frontal attack on the subject by social scientist generally," noting that during this period, the school of journalism began to study the press more scientifically as an element of public opinion, and also advertising agencies and marketing research began to rise (p.31). In journalism, the industrialization of the press was not just a professionalizing press whereby college-educated reporters began to work on salary, but it also was a transformation of the way they report: new journalism was distinguished from old mostly because it began to be differentiated from politics (Schudson, 1998). Modern mass-circulated newspapers could no more rely on *parochial* repertoire appealing only to readers of a specific political spectrum; naturally their attention

shifted from local audiences to a national one, seeking for more profits (Beniger & Herbst, 1990). Secondly, along with the increase and diversification of the role of governments[7], the experience of the World War stimulated governments to host professionals who specialized in formulating public opinion (Childs, 1965). The development of propaganda during the war and a tremendous growth in governmental activity, such as the New Deal, drove governments to concern themselves with public opinion, especially controlling public opinion. During the war, psychologists and other specialists in public opinion were called upon to test and apply their scientific studies on soldiers (Childs, 1965). The processes of monopolization of communication by industries and governments intensified the de-politicization process whereby political action is reduced to occasional electoral decisions. This de-politicization process is also augmented by a welfare state providing bureaucratic provisions for life (Bowring, 1996).

As journalists, politicians and other researchers realized the significance of public opinions, the technology of measuring public opinion, polling and survey research became increasingly attractive to them (Herbst & Beniger, 1994). As Carey (1992) states that the "decline and dismissal of the public sphere, paradoxically, corresponded to the emergence of public opinion and the apparatus of the polling industry" (p.11), the introduction of scientific technology of

[7] Childs (1965) argues that the regaining of political leadership by the Democratic Party was one of the main elements that created the rapid growth in governmental activity during the early 20th century.

measuring public opinion significantly changed the way we perceive of the public. Certainly the rise of the scientific surveys cannot be separated from the motives of big business and government: their aspirations to influence purchasing of goods and casting of votes, to legitimate and maintain their decisions, or to control certain complaints and demands was the main engine to developing this new technology (Beniger & Herbst, 1990).

In scientific surveys, the definition of "the public" is a population of individuals, often described as residents of a geographic space, and it is operationalized as a certain number of samples of this larger population (Miller, 1995). These scientific surveys and polls[8] create a concrete image of "publicncess" with numbers (Herbst, 1993). Since the way we conceive the public with numbers, which is often called the *aggregate* model of public opinion, replaced the way we conceive the public with interactions, the association between the public and democracy has significantly changed. As many critics note (e.g., Carey, 1995; Gans, 2003), today the public has been replaced by the interest group as the key part of the political system, and democracy has reduced itself to a political game in which different actors compete for more media attention. Public opinion, in the contemporary democracy, matters only when it is useful as a part of this game by supporting a certain agenda of an interest group

[8] Beniger & Herbst (1990) point out that modern survey research derived from the technological innovation of Morris Hansen, a statistician at the U.S. Census Bureau. Hansen's new theory and

or/and attracting a large amount of audience attention. Critics often argue that in a sharp contrast to *deliberative* democracy, contemporary *representative* democracy alienates the *public* in the name of *public opinion*[9].

JOURNALISM AND PUBLIC OPINION POLLS

The use of public opinion polls in the media is closely related to the rise of "objectivity" in American journalism. The rise of journalistic objectivity was not founded on a naïve idea that humans could get an absolutely neutral position in perceiving realities; rather, the development of journalistic objectivity has been based on a realization of the modern skepticism developed by Decartes, Locke, Hume, Compte and other modern philosophers (Streckfuss, 1990). This modern skepticism shows that sensory experiences do not always correspond to the realities of the world, and thus one cannot achieve certain knowledge of general truth only by sensory experiences (see Pojman, 2001). The rapid professionalization in journalism, in this sense, was a reaction to this realization of the possible errors that individual subjectivity may have. Streckfuss (1990) argues that reacting to this realization, the advocates of objectivity in the 1920s (e.g., Lippmann) proposed "the rigors of the scientific method" to journalism in

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method reduced the sample sizes while maintaining the same level of accuracy so that made economically possible following public opinion surveys by Gallup and Roper in 1935 (p.219).

[9] For detailed discusson on deliberative democracy, see J. Bohman, *Public Deliberation* (Cambridge, MA: MIT press, 1996); J. Elster, *Deliberative Democracy* (New York: Cambridge

order to compensate for the limitations of individual journalists. It is not accidental that journalism became closely linked to the scientific method during the early era of modernity; rather, science was seen as a way to provide genuine knowledge, to control subjectivity. As Wiebe (1967) points out, scientific methods provided comforting control in a number of social fields in the early 20th century.

The key characteristic of the scientific method is to employ precise, disciplined procedures for separating subjective values from objective facts. Journalistic objectivity shares this key characteristic with science in that it relies on a sharp distinction between objective realities and journalists' subjective values. In order to minimize the intervention of one's subjective influence in acquiring objective facts, both science and objective journalism rely on standardized procedures: that is, the rules and procedures of the institutional sphere substitute for individual judgments and, thus, narrow the playing field of individual's subjectivity (Megill, 1994, Stoker, 1995). In a similar sense, Reese (1990) finds that both science and journalism share the ideology of objectivity, arguing that:

> Both science and journalism are empirical information-gathering activities that have developed learnable routines for their praticitioners. Both scientists and journalists are presumed to be dispassionate observers of the world, guided primarily by their observations…both science and

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Univ. press, 1998) D'entreves, *Democracy as Public Deliberation* (New York: Manchestor Univ. press, 2002).

> journalism are guided by a positivist faith in empiricism, the belief that the external world can be successfully perceived and understood (pp.392-393)

Megill (1994) identifies philosophical senses of objectivity into four different categories: absolute objectivity that seeks universal criteria of truth; disciplinary objectivity in which community standards serve as a basis for judging truth; procedural objectivity in which procedural rules provide alternatives to subjective judgment; and dialectical objectivity that is created in the process of inter-subjective action. Among these categories, journalistic objectivity can be placed in the framework of procedural and disciplinary objectivity. As Zelizer (1993a, 1993b) indicates, journalists and scientists use shared interpretive frameworks, objective journalism or scientism, to establish an "objective" standard of judging truth. As a result, they use the process of constructing objective knowledge as a way of legitimating their specific way of experiences before their own audience (see also, Overington, 1977). The common interpretive framework is shared in the process of social gathering. Zelizer (1993a) argues,

> Journalists, in this view, create community through discourse that proliferates in informal talks, professional meetings and trade reviews, memoirs, interviews on talk shows, and media retrospectives. Through discourse, journalists create shared interpretations that make their professional lives meaningful; that is, they use stories about the past to address dilemmas that present themselves while covering news (p.84).

In addition, disciplinary objectivity is invoked in the practices of training journalists and scientists. The academic and practical training process for scientists and journalists provide them with standards of how to acquire their

authority in claiming truth by teaching what authority they can utilize and what rhetorical devices they need. These regulative ideals of journalism are often formatted in the professional code or journalistic routines, which, in turn, act as substitutes for any personal judgment (Gynn, 1995).

Some critics are concerned with these regulative practices, especially their heavy reliance on authoritative information sources (e.g., Cook, 1998; Friedman, 1998; Gans, 1979; Hackett, 1984; Shoemaker & Reese, 1996; Tuchman, 1978). Journalists rely on the views and activities of the officials and other established information sources for acquiring the right version of truth claims on a given topic, assuming that those groups of people can represent the social consensus on the topic. The critics, however, argue that the views and activities of the officials and other established information sources do not necessarily reflect the consensus of all social members, instead they tend to show only the consensus among the elites and bureaucratic efficiencies. Hackett (1984) claims that journalistic practices of objectivity ensure that the information flows only from bureaucracies to the public, resulting in the exclusion of minority positions and the forgoing historical context around the media. Critics often link journalists' heavy reliance on official information sources to their concerns with the *hegemonic* influence of journalism on the other parts of society. Hackett (1984) argues that journalistic routines tend to naturalize the views of the dominant by accepting and reinforcing the definitions of issues which are already prevailed in the current domain. Hall

(1985) and Tuchman (1978) also point out that objectivity in news coverage leads to bias in the sense that powerful sources are presented as primary information sources. Reese's study of MacDougall's case (1990) shows that when a journalist's practice violates the *hegemonic* consensus of the journalistic community, his practices are distanced and marginalized from the normal practices of journalists to protect "normal" objective values from the violation.

While many critics shed light on the hegemonic influence of objective journalism, some critics are more concerned with the centrifugal effect of journalistic objectivity (e.g., Durham, 1998; Glasser, 1984; Stocker, 1995). Durham (1998) points out that recently journalistic objectivity has evolved to the concept of "impartiality", which is by and large consonant with political pluralism. Some critics, including herself, argue that the journalistic practices of impartiality lead journalists to a subservient spectator role in serving public interests, while dismissing their moral and political responsibilities as citizens (Glasser, 1984; Stocker, 1995). As Durham (1998) notes, one of the biggest concerns about objective journalism is that it "stymies" the public's inquiry on a truth claim at a relativist standpoint which she calls an "intellectual dead end," leading to solipsistic relativism. As inter-subjectivists claim, the best version of truth cannot be acquired by just showing "differences" among the public, rather it can be produced when those "differences" are brought into the conversational

arena (Carey, 1989; Young, 1996). Contrasting objectivity to intersubjectivity, Brummet (1976) states:

> Intersubjectivity holds that the discovery of reality and the testing of it is never independent of people but take place through people. Yet this reality is found through communication between people if humanity is to escape solipsism. Reality is meaning yet meaning is something created and discovered in communication (p.30).

In this intersubjectivist sense, taking journalism into only objective territory is disguising the roles and responsibilities journalists take and demand to take. It is a simple myth or an ideological imagination that the new media can deliver objective truth without journalists' subjective roles and responsibilities. Christians et al (1993), in this sense, insist that journalism must recast objectivity in terms of subjective involvement so that journalists can realize their ethical responsibilities in producing knowledge and can passionately participate in the conversational arena of truth claims.

The use of scientific polls was another important addition to the professional ethic of objectivity. American journalism has used polls as a tool for presenting public opinion since the 1820s (Crespi, 1980b; Smith, 1990, Fuse, 2000).[10] Since the birth of opinion polls, the news media have spent special effort,

[10] Smith (1990) states that the first straw polls began to appear in the 1824 presidential election. He argues that the change of American party system and its nomination process influenced the emergence of straw polls. While these polls were not conducted nor sponsored by the press, some newspapers including the *Carolina Observer* and the *Star and North Carolina Gazette* reported and updated them regularly. Also, Tankard (1972) notes that the *Pennsylvanian* report on July 17, 1824 that Jackson received more Fourth of July toasts at public meeting than any other

time and money to present poll results. In the 19th century, opinion polls were mainly conducted by ordinary citizens, and the news media simply reported the results. According to Fuse (2000), straw polls were initially conducted by party workers and other individuals, but soon later newspapers began to conduct and utilize them as "ideological weapons" (p. 44). Some large-scale straw polls had successfully predicted the winner in national elections, but the 1936 *Literary Digest* fiasco triggered severe criticism of the unscientific sampling method of straw polls (Crespi, 1980b; Fuse, 2000). After the 1930s, the Gallup Poll and the Roper Poll introduced the sampling survey, which made those syndicated research institutes major sources of poll data. As Fuse (2000) notes, the 1930s witnessed the formation of a "scientific community" of professional pollsters and academics whose refined techniques finally superceded unscientific straw polls.

Since the 1960s and 1970s, as the use of polls has rapidly expanded, more and more news media as well as syndicated research institutes have established and used their own in-house organizations to gain polling data (Crespi, 1980b; Gollin, 1987). As the number of polls presented in the news media keeps growing, some advocates of opinion polls argue that opinion polls can be a crucial tool to bridge the gap in the American representative democratic system. Voting once every four years, scholars argue, cannot be a sufficient channel for laypeople's participation in political decisions. Gallup and Rae (1940) point out that in the

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presidential candidate may be one of the earliest uses of public opinion in an "unobtrusive" way

contemporary representative democracy in the U.S., the only opportunity for citizens to participate in political decisions is by voting in elections. However, the votes cast not only represent people's opinions of the candidates' policies but also reflect their evaluation of the candidates' images. Indeed, election results clearly do not provide the best representation of public deliberation on candidates' policies and political ideologies. Gallup and Rae (1940) insist that since elections should never be the sole method for expressing public opinion, representative democracy needs a channel to link the representatives with public opinion. Opinion polls, at least when conducted scientifically, can offer a valuable tool to resolve this problem of representative democracy, especially because of their objectivity (Gallup & Rae, 1940; Verba, 1996). Verba (1996) emphasizes that other citizen-participation models of democracy cannot be fair because participation depends on resource, and resources are unequally distributed. But, scientific polls are "rigorously egalitarian" because they are designed so that each individual has an equal chance to express himself or herself (p. 3).

In fact, since its birth in ancient Greece, democracy has been based on the fundamental belief that public determination is the best way to solve communal problems. However, for long as this belief has been sustained, democracy has been confronted with the problem of gathering and listening to people's voices. Even in ancient Greece, the number of people with access to the public arena was

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(p.363).

limited, and the number of those who could express their opinions even more limited (Peters, 1999). In modern democracy, the news media have replaced the public arena as the primary source for gathering and exchanging public opinions on given issues.

Advocates of opinion polls, however, note that modern democracy is in danger because the opinions expressed and exchanged in the news media do not necessarily correlate with actual public opinions.[11] The intervention of the news media inevitably introduced new problems in gathering and communicating the voices of the public. For example, Lippmann (1922) argued that the news media in modern democracy cannot be an efficient tool for democracy because of the stereotypical ways individuals process information. There are also innate limitations of the news media, often expressed through censorship and other time and space constraints. For these reasons, Lippman was skeptical about the concepts of "public opinion" and "public determination" in modern democracy and believed that the power of the average citizen should be limited only to votes in elections. Because of the serious doubts over the capacity of the average citizen to engage in rational public deliberation, Lippmann advocated a turn to positivistic science, "not just for journalism, but for the practice of democracy as a whole" (Bybee, 1999, p. 32). Much like Lippmann, many advocates of opinion

[11] See Gallup and Rae (1940) pp. 34-55, and Meyer (2002). Through the concept of "precision journalism," Meyer (2002) asked journalists to develop scientific skills to obtain genuine public opinions under an inundation of false opinions. See also Lippmann (1922).

polls believe that scientific methods of gathering individual opinions can provide the only way to access actual public opinion and thereby realize and sustain a modern democracy.

CRITICS OF PUBLIC OPINION POLLS

Critics of this viewpoint express misgivings about the functionalistic optimism of opinion poll advocates (e.g., Blumer, 1948; Bourdieu, 1978; Habermas, 1989; Herbst, 1993). While the views of these critics differ in many ways, their views are generally premised on the idea that opinion polls cannot correctly measure public opinion. As Blumer (1948) contended, the formation of public opinion is an ongoing process of interaction in which one view responds to and influences other views. He emphasized that the public is not just the sum of discrete individuals. The formation of public opinion reflects the shifting composition and organization of society on given issues.[12] Since people are by no means discrete with their pre-determined opinions, any given social arrangement (e.g., occupation, economic class, region, gender, political membership, family, etc.) plays a crucial role in determining individual opinions. Also, since everyone does not have equal ability to influence others in given social arrangements, we can hardly expect a snapshot of their opinions in a poll to show correctly the ongoing formation of public opinion. In a similar sense, Bourdieu (1978) also

[12] For more details, see Blumer (1948), pp. 72-73.

argued that the power of one's opinion on others varies according to one's "political competence" and "class ethos" (p. 126).[13] Bourdieu believed that since opinions are forces that keep moving in the midst of conflicting forces, "public opinion" as such does not exist.

In a simplistic sense, these criticisms of opinion polls pose a challenge to the validity of survey methods. However, the more important implication of these critiques can be found in their philosophical challenge to the functional and realistic approach to "objectivity" represented in opinion polls. Gallup and other advocates of opinion polls treated public opinion as already objectified, that is, constituted by already existing realities before its appearance in opinion polls. In this view, polls by the news media or other research institutes are just tools for measuring these independent realities.

Contrary to this functional and realistic approach, many critical observers (e.g. Bourdieu, Carey, Herbst, Lipari, etc.) viewed the investigation and distribution of others' opinions as a key component in constructing public opinion (Glynn, Ostman, & McDonald, 1995). As the constructivist view of reality implies,[14] people behave on the basis of their perception of context, and the perception of context cannot be separated from the ways of presenting the context. In this sense, scholars critical of polls are concerned that the ways of

[13] Bourdieu (1978) believes that education and economic inclination are the primary conditions for the production of opinions.
[14] For more details, see Berger & Luckmann (1967).

presenting contextual realities can be the deciding component of individual opinion formation. For example, Noelle-Neumann's (1984) spiral of silence theory suggested that the distribution of public opinion motivates or discourages one's willingness to express one's opinions. Critics do not consider opinion polls simply to be objective tools; instead they pay close attention to the meaning-producing process around opinion polls. That is, critics believe that polls have more than a simple meaning-expression function. Noelle-Neumann and other media scholars have studied how the perception of public opinion influences one's behaviors and attitudes. Herbst (1993) argued that the quantitative expression of opinion polls functions as a symbol of public opinion. Since numbers are easily believed to be objective, precise and scientific by the news media, the quantitative expression of polls leads people to believe that such polls are the legitimate expression of general public sentiment.

Fuse (2000), in summarizing these critiques on opinion polls, notes the consequences of the domination of scientific opinion polls in four points. First, all activities involved in opinion polls tend to be simply equated with the definition of public opinion. While the aggregation model of public opinion, which scientific opinion polls are theoretically based on, is one of many approaches to defining public opinion, "opinion quantification buries various theoretical issues that other definitions of public opinion have engendered" (Fuse, 2000, p.113). Second, in the same sense, the objective assumption of public opinion polls tend

to suppress other types of rationality while raising instrumental rationality. Even though the development of scientific techniques has helped public opinion polls improve the degree of representation of the target population, the representation cannot be the only necessity when a democratic society seeks its goals. Rather, as Habermas and others emphasize, “communicative rationality,” which is earned in the deliberation process of defining and acquiring the goals, is the most fundamental part for democracy, but the incessant pursuit of modern society for efficiency tends to restrain communicative actions within the boundary of instrumental reason. Third, since quantitative techniques involve rigid categorization, public opinion polls applying these techniques tend to simplify the complexity of the world into a limited number of categories. As Fuse (2000) notes, the scheme of categorization already has a “frame of reference” so that it tends to legitimate the status quo (p.116). Fourth, in a related sense to the third problem, the domination of the statistical sense of public opinion engenders “unwitting biases” in that it tends to legitimate a majoritarian public opinion as “normal.” Since polls are often used to indicate aggregate mass opinion or “average men’s opinion,” minor opinions tend to be trivialized or judged as “not normal.”

An Outline of the Project

The problem raised in this project is the effect of published opinion polls on the process of shaping public opinion. Through an empirical analysis of the publication of presidential approval ratings by the news media, this project aims to reveal the cyclical relationship between news media coverage of "public opinion" and public opinion itself, which this study expects to follow a spiral process of forming public opinion. Discussing the influence of the published opinion polls is not easy, and it is challenging to demonstrate it in a systematic and empirical way. While numerous previous studies (e.g., Bourdieu, 1972; Herbst, 1993; Lipari, 1999; Fuse, 2000; Igo, 2001) tackled the assumption of objectivity of opinion polls and effectively pointed out its causal influence in constructing public opinion itself, their methods were limited in qualitative and symptomatic readings, and their interests were more focused on opinion polls in a cultural domain. This study wants to replicate and generalize the argument of the previous studies by showing the falsity of objectivism in opinion polls in an empirical and systematic way. Using presidential approval poll data, this study expects to expand the findings of previous studies to a political domain, and so to show how our subjectivity in dealing with political decisions has transformed under the influence of the news media. It is no less important to show the falsity of objectivism in a political domain than in a cultural domain, particularly given that our decisions on politics are increasingly dominated by the efficiency/utility-

oriented information presented by the news media (see Iyengar, 1991; Patterson, 1994; Cappella & Jamieson, 1997). In this sense, this study proposes that presidential approval rates are not simple records of American sentiment regarding presidents; instead, they are both indicators of the American public's response to politics and the public's reactions to others' opinions.

Given the empirical research questions, literature pertinent to this project is reviewed in two main sources. First, it is necessary to understand the current views on the formation of public opinion and the influence of the media on it. Second, a review of previous studies on presidential approval ratings is necessary. To provide an understanding of current views on journalistic objectivity and presidential approval ratings, Chapter Two reviews pertinent literature in journalism, politics and other fields. Based on theoretical discussion and previous literature reviews, Chapter Three introduces the main variables this study observes and puts the associations among those variables into the four hypotheses of this study. Given that this study wants to explore the relations between the media and public opinion in a reciprocal way, the methodological techniques in this study are double folded and somewhat complicated. First, to investigate the casual relationship of public opinion to the media, this study applies a quadratic regression analysis, which is often used to study a curvilinear relation between variables. Second, the causal association of the media to following public opinion

is explored through a time-series analysis. In Chapter Four, the methodological considerations of this study are explicated.

Chapter Five shows the results of the empirical analysis through the quadratic regression analysis and the time-series analysis. The results of both methods will document that news reportage of public opinion is not independent of the formation of public opinion itself, in that it empowers or precludes certain attributes of the public opinion. Next, in Chapter Six, this research will synthesize the results of the empirical analysis and summarize the implications of those results in both communication-theoretical sense and sociological sense. A discussion will follow on which tenets journalists need to keep in order to make the public more involved with social issues.

Chapter 2. The Spiral Formation of Public Opinion: the Cyclical Relationship between the Media and the Public

> If we understand the force of public opinion, we shall not delude ourselves that we can be "good" citizens, completely independent of the pressure of public opinion. And we shall be slower to judge others who, at certain times and under certain circumstances, must come to terms with public opinion. – Elizabeth Noelle-Neumann, *The Spiral of Silence*

The Formation of Public Opinion and Media as a "Pseudo-Environment" of Reality

COMMUNICATION RESEARCHES ON THE FORMATION OF PUBLIC OPINION

Public opinion, in any modern sense, is generally regarded as aggregated individual opinions. There, however, is little doubt about that public opinion is not a simple collection of individual opinions; instead, it is distinct from the statistical aggregations, as they are integrated and have significance beyond the level of individual opinions (Crespi, 1997). Since the integration is by no means possible without communication of opinions among institutions, organizations, and individuals, the integrating process of individual opinions into a collective opinion has been one of the main concerns of communication scholars since the birth of the discipline.

While the origin of public opinion research is sometimes found at the Chicago School of Sociology around the beginning of the twentieth century, the more common belief is that the *formal* study of public opinion and communication started with the Lazarsfeldian research tradition (i.e., social science approach) and other "founding fathers" including Harold Lasswell, Kurt Lewin, and Carl Hovland around the 1940s (Schramm, 1980; Peters, 1989; Fuse, 2000). Of course, even before those "founding fathers," there were insightful analysts of the process by which the public forms a collective opinion on a certain event, such as Walter Lippmann and John Dewey. Lippmann's *Public Opinion*, which remains one of the most influential books in communication[15], provided a very pessimistic view on the nature of public opinion, claiming that because of epistemological problems it is hardly imaginable that a rational will is formulated from the mess of individual opinions (Peters, 1989; Bybee, 1999). Regardless of Dewey's concern with the bureaucratization and impersonalization of the newly emerged modern society, he was more optimistic on communicative activities and the formation of a collective will, while Lippmann doubted the existence of *the public* itself owing to the epistemological limits of individuals. Our access to the truth, according to Lippmann, is not only precluded by some external factors such as censorship, the limitations of social contract, the shortage of time available, but also by our own "pictures in our heads." As the "pictures in our heads" often lead

[15] Carey (1982) suggests that *Public Opinion* is the founding book of American media studies.

us to misperceive the others and the real world outside, the common will formulated by collective deliberation can hardly exist. Instead only existing public opinion is an illusory consent which is manufactured by the elites. That is to say, it is elite-supplied stereotypes that are most influential in shaping public opinion of an event. Perhaps this grave and also simplistic view of the formation of public opinion is a reflection of the then-current fear of the mass society and the simplified understanding of the effect of the mass media, so-called "the hypodermic needle model."[16] But, it is hard to contest the fact that his attempt to explain the effect of the media regarding the formation of public opinion with epistemological points, which influenced later developments of public opinion research such as agenda-setting and framing, is still insightful.

While the earlier works of the Chicago School, Lippmann and Dewey had been close to a sociological approach in the understanding of public opinion, the later students of public opinion and communication research paid much more attention to psychological explanations. In fact, according to Beniger & Gusek (1995), the early pioneers were themselves social psychologists: Allport, Hovland, Katz, Lewin, Newcomb, Osgood and others were all trained in psychology (p.219). As they were applying psychological concepts such as 'attitude,' 'motivation,' and 'personality,' the focus of understanding of the

[16] As many communication historians have noted (cf. Delia, 1982), the evidence of for any pervasive belief in a 'grand effects' or 'hypopdermic needle' theory is somewhat insufficient, a

formation of public opinion moved from the direct of effect of the mass media to how an individual incorporates the information from the mass media to his/her own personal opinion. Locating the concept of 'attitude,' which is often believed to be more consistent and stable than other personal dispositions, the studies that applied a psychological approach did not document the powerful media effect on shaping public opinion, as the earlier critics were concerned. But still some psychological works provided good evidence for arguing that a personal opinion tends to follow group conformity, which is often called a 'mainstreaming effect' (see, Price & Oshagan, 1995).

Perhaps the most known psychological study demonstrating social conformity is Solomon Asch's studies (1952, 1956). Asch's experiments showed that when asked to find the longest or shortest line among clearly varying lengths of lines, the subjects grouped with experimental participants tended to discard their own judgments and follow the participants' agreed responses. Asch suggested that our tendency to avoid social isolation is the motive to lead the subjects to the wrong decisions. In a broader context than Asch's experimental small groups, this finding is easily translated to an importance of reference groups in shaping one's opinion of an event. That is, if one's opinion on an issue is decided by the information available on the issue and one's own existing attitude, the newly available information is not incorporated from the information source

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fiction created more or less by Katz and Lazarsfeld and give currency by DeFleur's various

to one's opinion; instead, the information 'from the outside' is processed only with other considerations like 'opinions of other members of the reference group,' and 'comparison of one's own opinion with the other opinions'. Also, as individual personality differs from others', one's status and role in incorporating information into a group does not equal others' status and role That is, according to personal characteristics, some individuals, i.e., opinion leaders, may be more active in accessing news and delivering it to the others (e.g., Newcomb, 1946).

In the studies of media effect, the findings of interpersonal influences on processing information led to the specification of the process by which the media affect individual information to "two-step flow of communication." The idea is that a media message does not directly reach an individual audience; rather, it first reaches opinion leaders of a social group, and the leaders of the social group pass on the information to their followers. In Lazarsfeld's 1940 presidential election study, he found that the effect of the mass media is weaker than personal influence in making one's voting decision. Lazarsfeld (1948) suggested that one's voting decision is mostly influenced by group norms and group pressure. A group tends to have "opinion leaders" who expose themselves to the mass media more frequently than the rest of the group does.

As many psychological studies confirmed that one's personality traits, such as neuroticism, extroversion, openness, agreeableness, and

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editions of *Mass Communication Theory*.

conscientiousness, are most important explanations in formulating personal opinion, the earlier interest in the media effect became redefined to the question of how the audience use the mass media for their own gratifications (Katz, Blumer, & Gurevitch, 1974).

As the mainstream paradigm moved into the "limited-effect model" in specifying the role of the media in shaping public opinion, communication research came to lose its interest in the effect of the mass media and marked a decline in the developing communication discipline especially for the period from the mid-1960s to the 1970s (Beniger & Gusek, 1995). That is, while the "limited-effect model," including the uses and gratifications approach, brought a theoretical development in identifying the relationship between individual characteristics and the media, it has been often criticized for placing too much emphasis on individual differences, which makes it hard to understand the relationship between the public and the media beyond the individual level (Ruggiero, 2000). Methodologically, a problem of the psychological approach to public opinion is that the studies tend to focus too much on micro-level data such as attitude, knowledge, or behavior in explaining the shift of public opinion. One of the reasons of this overindulgence in those micro-level analyses is that it is relatively difficult to find any longitudinal data in public opinion research. As a result, the analysis of the long-term fluctuation of public opinion on a certain

issue is less often taken, and the psychological experiment is used more often for explaining the fluctuation (see Wu et al., 2002).

Since the 1970s, this mainstream paradigm has been challenged in two main perspectives. First, a new trend in finding the effect of the media in terms of cognitive changes has shifted the focus of communication research from looking for attitudinal/behavioral change to finding the media effect at the change in people's perceptions. That is, as earlier thinkers like Lippmann and Dewey did, new communication researchers, including McCombs & Shaw (1972) of "agenda setting" research, Gerbner & Gross (1976) of "cultivation" analysis, and Noelle-Neuman (1974) of "spiral of silence" research, attempted to explain the influence of the media on shaping public opinion by focusing on epistemological functions of the media and public opinion. Another challenge to the "limited-effect" model is the emergence of constructionist view of reality. As the constructionist view challenges the positivistic view of meaning, it suggests that meaning of the everyday reality is not located in the reality itself; rather the meaning is constructed by the process of inter-subjective interactions among social agents who may have different interpretations of the reality (see Burger & Luckmann, 1967). In communication research, the introduction of the constructionist view brought a new way of analyzing the effect of the media: that is, instead of analyzing the media effect only in terms of attitudinal/behavioral changes, the view attempts to identify the media as a part of a social process by which a

meaning is defined and maintained as the *dominant* meaning. While the mainstream paradigm tended to limit the effect of the media within an attitudinal/behavioral change in a short period of time, communication studies in the constructionist view are more likely to focus on maintaining the function of the media in a relatively long period of time.

The following discussion will review three theoretical perspectives, which are more closely related to the research hypotheses of this study, on the media's effect in shaping public opinion. The three perspectives, the spiral of silence, agenda setting, and framing, are not equal to each other in explaining the way the media influence public opinion. But, they share a general view of looking at the media's effect on public opinion in terms of cognitive influence and public opinion as a series of dynamic relation between the media and the public. This study suggests that each of these theoretical perspectives compensate for each other in explaining the multi-level dynamic of shaping public opinion.

THE SPIRAL OF SILENCE: UNFINISHED PROJECT

The Assumptions of the Spiral of Silence

The basic idea of the spiral of silence is that people who believe their private opinions are on the majority side or are on the rise in public opinion will be more likely to speak out publicly, and people who perceive themselves to be in

the minority or in the decrease of public opinion will remain silent (Noelle-Neumann, 1974, 1984). Given the findings of previous studies in psychological traditions, it is not surprising to document in the spiral of silence that one's opinion on a given issue is determined not just by one's perception of the issue but also by his/her perception of the other's opinions (see, Glynn et al., 1995). But, the beauty of the spiral of silence is that while it attempts to explicate the process of shaping public opinion with some psychological concepts of explaining individual propensities, such as "the fear of isolation," "outspokenness," and "quasi-statistical sense" (Noelle-Neumann ,1984, p. 6.; 1977, p.145), it broadens its analysis to elucidate the overall process of shaping public opinion beyond the individual or small group level of analysis. That is to say, it is fruitful to document in the spiral of silence that one's perception of the other's opinion motivates one's willingness to express his/her own opinions on a given issue, and so that results in the overall trend of the spiral of silence in which public opinion functions as "social skin" forcing the members of a society to follow "majority rules" (Noelle-Neumann, 1984; Scheufele & Moy, 2000). This view of public opinion as "social control," in a sense, casts doubt to the modern belief of public opinion as a collective rational decision. That is, if public opinion, as the spiral of silence proposes, always has the tendency to follow the majority rule, it is hard to believe that a general will of the public is constructed by the rational deliberation process itself.

Since Noelle-Neumann (1974) introduced main concepts of the spiral of silence, a number of communication studies have tested the spiral of silence hypotheses with various methods including experimental designs and survey researches. As a meta-analysis over 20 previous survey studies on the spiral of silence confirmed that there exist a small but significant correlation between perceptions of majority opinion and one's willingness to express his/her own opinion (Glynn et al., 1997), the survey studies, in general, have confirmed the existence of a tendency that Noelle-Neumann called a spiral of silence (e.g., Taylor, 1982; Glynn & McLeod, 1984a; Gonzenbach & Stevenson, 1994; McDonald et al, 2001). On the other hand, when its microscopic assumptions were tested by experimental methods, the hypothesis of the spiral silence was often criticized for its lack of clear explication of main concepts, its inattention to mediating variables, and its lack of detailed explanations from empirical evidence to theoretical conclusion (see, Scheufele & Moy, 2000).

Critiques of the Spiral of Silence

One of the most often criticized concepts in the spiral of silence is "the fear of isolation," which Noelle-Neumann presupposed on the basis of Asch's experimental evidences. For example, Glynn & McLeod (1984b) pointed out that "the fear of isolation is set forth in too simple and sovereign a fashion" (p. 60), and also suggested to treat it as a variable rather than as a constant. Salmon &

Kline (1984) argued that there is a “conceptual leap” in the idea of the fear of isolation from small group face-to-face condition, from which the principal assumptions of the spiral of silence came, to a public opinion setting, to which the theory is applied. In fact, some researchers have questioned through empirical studies whether “the fear of isolation” is the single most important motive for the spiral of silence. Lasorsa (1991), for instance, showed through his survey research that, in addition to one’s perception of the climate of opinion, other factors such as demographic characteristics, political interests, the obtrusiveness of issues, the extent of media use, and the certainty of one’s own views are significant indicators of explaining the level of one’s outspokenness. Similarly, Salmon and Neuwirth (1990) found that knowledge of the issue and personal concern about the issue are also significant factors in determining one’s willingness to speak out in public. Also, Oshagan (1996) found that when the opinion of a reference group is not consonant with the social majority opinion and both are equally apparent, the opinion of reference group tends to become a more important influence. These studies, in general, can be summarized into two questions regarding the theory of spiral of silence: first, if there could be more variables, in addition to the fear of isolation, influencing one’s willingness to express his/her opinion, such as one’s social/demographical characteristics, the nature of the issue, and the issue’s salience to the public (Jeffres et al., 1999); second, the spiral of silence puts its basis on the earlier studies on the impact of reference groups and other dynamics

in small group situations, whether the dynamics of small group situations (i.e., the fear of isolation) could be applied to public opinion situations without additional considerations (Price & Allen, 1990; Scheufele & Moy, 2000).

Another important question to the theory of the spiral of silence is on its assumption of a "quasi-statistical" sense of people. One assumption of the spiral of silence is that individuals *constantly* scan their environment in order to assess the climate of opinion (Noelle-Neumann, 1977; Scheufele & Moy, 2000). Noelle-Neumann (1977) describes:

> In order to avoid becoming isolated and in order not to lose popularity and esteem, people *constantly* observe their environment very closely. They try to find out which opinions and modes of behavior are prevalent, and which opinions and modes of behavior are popular. They behave and express themselves accordingly in public (p.144).

That is to say, people's quasi-statistical sense is assumed as a *constant* rather than a variable in Noelle-Neumann's theory. However, given that the world consists of innumerable series of events in incessantly changing social contexts, and we have varying degrees of concerns on those events and issues, it is very unlikely that we have a constant ability of monitoring others' opinions with a certain degree of statistical confidence across difference events and issues. While Noelle-Neumann, in her later revision (1993), explains that the "quasi-statistical sense" is maintained by two main sources: perceptions of reality through the mass media, and interpersonal communication and observation, her analysis of the spiral process hardly explicates how individuals get their perception of the reality and

especially how their perception is related to the mass media. In fact, Noelle-Neumann tends to oversimplify media contexts across different agendas and different social contexts (at least, not in a German context), proposing that when individuals look to the media for the opinion environment, they encounter a consonant representation of the reality in the media. Consequently, how individuals acquire information to develop their perceptions of the climate of opinion has been less explored in the literature of the spiral of silence (Rimmer & Howard, 1990).

Noelle-Neuman posits that since people in modern society perceive public opinion through the media of mass communication, the media can serve as the principal force for the social pressure of conformity (Price & Allen, 1990). While not many previous studies had explored the relationship between the media and individual opinions, a few studies which explored the relationship found that the relationship is not so much direct and simple, as Noelle-Neumann implied earlier. While some studies confirmed that our perceptions of the climate of opinion are formed under the influence of the media (e.g., Eveland et al., 1995), many studies confirmed that the influence of the media on our perceptions of the climate of opinion is no more direct and powerful, at least in terms of *accuracy*, than other factors such as our personal "conviction" (Gonzenbach & Stevenson, 1994; Rimmer & Howard, 1990). While these findings are not entirely consistent with

Noelle-Neumann's expectations (Rimmer & Howard, 1990), earlier works of psychology do well to justify these findings.

Earlier psychological studies suggested that our statistical sense in perceiving other's opinions is not likely to be accurate in that it is so vulnerable to simple heuristic information and our own biases (e.g., Kahneman & Tversky, 1972; Tversky & Kahneman, 1974; Fields & Schuman, 1976; see, Kennamer, 1990). One of the better-known explanations is the "looking glass perception" hypothesis: which suggests that individuals tend to project their own opinion onto the others so that they overestimate the support to their opinion and underestimate other competing opinions (Fields & Schuman, 1976). Another important explanation is the impact of heuristics on our ability to perceive reality accurately, which develops to "framing" studies later. Kahneman and Tversky, who are arguably the most important contributors in cognitive psychology, documented in their experimental works that our statistical sense can be easily led to non-rational conclusions when the information is provided with a simple heuristic cue (Kahneman & Tversky, 1972; Tversky & Kahneman, 1974, Tversky & Kahneman, 1980).

In sum, while the basic idea of the spiral of silence has been confirmed in a good number of studies showing that our perception of others' opinions is influential in forming our own opinion on a given issue, there are a lot of questions left unanswered on how this individual tendency is aggregated and so

resulted in the macro social process of the spiral of silence. Even though we may suspect that the mass media play an important function in replicating the individual tendency into the public tendency, there have been only a limited number of studies, and the findings of the previous studies have provided mixed conclusions on the relationship. Given those mixed findings, Glynn & McLeod (1985) and Rimmer & Howard (1990) even concluded that the spiral of silence is only an issue-specific tendency. Given those inconsistent findings, it is hard to generalize the relation between the media and one's accurate perception and expression of opinions. But the finding of Rimmer & Howard's study (1990) is still noteworthy: Even though one's use of the media is not much related to the accuracy of one's perception of others' opinions, the degree of salience one feels on a given issue is a powerful predictor of expression. That is, the result implies that, if the media have any significant influence on the process of the spiral of silence, the impact would not be making the climate of opinion more accurate or clearer; instead, there is something else that the media function in the process of the spiral of silence. Here, two important approaches to the media effect may help explain how the media affect one's perception of the climate of opinion: agenda-setting and framing approaches.

AGENDA-SETTING: CHANGING SUSCEPTIBILITY OF THE PUBLIC

Basic Idea of Agenda-Setting

Agenda-setting studies have approached the study of the media effect in a whole new way. As Cohen (1963) argued, although "it [the media] may not be successful much of the time in telling *what to think,* it is stunningly successful in telling its readers *what to think about*" (p.13), agenda-setting studies have attempted to measure the media effect in terms of people's changing susceptibility to a certain agenda, instead of people's changing opinion. That is, unlike Noelle-Neumann's conceptualization of the spiral of silence (where she believes that we are *constantly* observing the climate of opinion), agenda-setting studies assume that a society consists of innumerable issues and that our ability to concern with those issues is limited to a certain degree; that means, agenda-setting is a "zero-sum game" where we have a varying degree of susceptibility to a certain agenda, and a new agenda must suppress another agenda to come to attention (Dearing & Rogers, 1992).

The Chapel Hill study (McCombs & Shaw, 1972) was one of the earliest works that empirically tested the media agenda-public agenda relationship. In their study, McCombs & Shaw explored the role of mass media in the 1968 presidential campaign in Chapel Hill, North Carolina. Their hypothesis is succinctly summarized: "while the mass media may have little influence on the

direction or intensity of attitudes, it is hypothesized that the mass media set the agenda for each political campaign, influencing the salience of attitudes toward the political issues" (p.18). Combining two quantitative methods—content analysis of the media coverage and survey interviews of 100 undecided voters—, McCombs and Shaw found that there is a very strong relationship between the campaign issues emphasized by the media and the judgment of voters as to the salience and importance of various campaign issues.

As Dearing and Rogers (1992) described later, the real contribution of this study is in laying out the agenda-setting hypothesis, in calling the media-public agenda relationship "agenda-setting," and in suggesting a paradigm for further research. Later more than 200 studies have not only confirmed the agenda-setting effect that McCombs and Shaw's study (1972) implied, but also conceptually detailed the way the media influence the public perception of a certain issue (Dearing & Rogers, 1992). For example, Iyengar & Kinder (1982)'s study with experimental methods found that subjects who are exposed to the news media coverage of the US defense not only changed their perception of the importance of the issue, but also altered their evaluation of President Carter's performance in office. That is, as the media salience of the US defense is transferred to the subject's perceived importance of the agenda, the agenda also has a priming influence on the subject's perception, becoming a more important criterion for evaluating the President.

Since McCombs and Shaw's seminal Chapel Hill study (1972), one of the most important questions for mass communication scholars has been "who sets the media agenda?" That is, information sources' influences on media content have been an important question in agenda-setting studies (Gandy, 1982). Researchers have explored the influence of a variety of the information sources on the media agenda, including advertisers, public relations agents, the President, wire services, other media and government officials (e.g., Gilberg et al., 1980; Reese & Danielian, 1989; Turk, 1986). For example, Turk's research (1986) documented that more than half of the public information officers' (PIO) information handouts in a local government were used in local newspapers, arguing that governmental PIO, as an official information source, straightforwardly affects the agenda of the media.

However, one problem with these studies is that while they attempted to define the influence of these information sources on the media agenda in terms of the effect of "information subsidy," these studies tended to oversimplify the process of deciding media agenda into a one-way procedure from "information sources" through the media to the public. As Gandy (1982)'s definition of the "information subsidy" as "an attempt to produce influence over the actions of others by controlling their access to and use of information relevant to those actions" (p.61) shows, these studies on the effect of "information subsidy" only documented the power of formal institutions over journalists by *controlling*

available information. While it is hard to contest that journalists are, to some extent, influenced by these social institutions, it is not very persuasive to argue that the media's agenda is mainly decided by those information subsidies, given that deciding the media agenda takes a much more complex process where the professional value of journalists in the media and social conditions outside the media simultaneously affect the media agenda (see, Gans, 1979; Shoemaker & Reese, 1996)[17]. Considering that journalists are not simple machinery controlled by other social institutions, we need a more expanded exploration of how the media agenda is decided not simply in terms of being *controlled* by "information subsidies" but in terms of the *changing susceptibility* of journalists.

In this sense, Smith (1987)'s cyclical approach to the relationship between the media agenda and the public agenda needs to be noted. Smith (1987) suggests that media coverage of an agenda influences public concern, and the public, in turn, influence the media coverage; that is, feedback loops, as a part of a *general social system*, exist between media coverage and public concern over time. According to her analysis, the cross correlation of some agendas—education, economic development, crime—indicates that the media agenda and the public agenda mutually influence each other, and more importantly Smith's Granger causality tests show that the lagged value of each other (media agenda and public

[17] Gans (1979) comments on the relationship between the media and information sources, stating that "although it takes two to tango, either sources or journalists can lead, but more often than not, sources do the leading" (p.116).

agenda) adds to the variance accounted for the past histories. That is, interestingly, the mutual influence between the media agenda and the public agenda tends to result in the "amplification" or "control" of some agendas. While the study has some methodological limitations, the findings of her analysis have a great implication not just for the agenda-setting theory but also for the spiral of silence theory. Even though the fact that the susceptibility of both journalists and the public to a certain agenda is changing under the influence of each other does not tell whether there is any proportional shift in opinion majority/minority in accordance with the changing susceptibility, it is still imaginable that the increased susceptibility of both the media and the public is a key element in the overall process of the spiral of silence, given that our concern on a certain agenda is varying over time, not only in terms of the degrees of susceptibility but also in terms of attributes. Recent theoretical developments, second-level agenda setting and framing studies, document that our concern on a certain issue is greatly influenced by the media and the media cue us *how to think about the issue*.

Second Level Agenda-Setting

The theoretical development of second-level agenda setting has provided researchers a refined way to explore the media-public relationships. In addition to its original argument of the transfer of issue salience, recent agenda setting research suggests that attributes shift salience to "the sets of perspectives or

frames that journalists and the public employ to think about each object" (Ghanem, 1997, p.5). In other words, the second level of agenda setting suggests that the media affect the public's *how-to-think-about* an issue, as well as *what to think about* an issue (Ghanem, 1997).

In the second-level agenda-setting research, the conceptualization of 'attributes,' which is the unit of observation in the second-level agenda-setting study, has continuously evolved, and is still developing. Generally, the concept of 'attributes' refers to the 'characteristics and properties' of objects, which are issues, events, candidates, etc. (McCombs & Ghanem, 1998). In the early thought of attribute agenda-setting studies, 'attributes' were mostly conceptualized as the 'sub-topics' of an issue. Becker and McCombs (1978) treated the concept of 'attributes' as specific information about political candidates, such as 'geographic origins,' 'occupations,' or 'issue stands' of the candidates. In Takeshita and Mikami's current study (1995), 'attributes' were conceptualized as 'sub-issues,' such as 'political reform issues,' and 'system-related issues.' In the meantime, some researchers recently began to conceive of 'attributes' as multi-dimensional concepts. Some scholars maintained that media-image agenda-setting effects work along two dimensions: affective and substantive dimensions. Lopez-Escobar et al. (1997, 1998) divided the concept of 'attributes' into the 'affective dimension,' which refers to emotional images of political candidates (e.g.,

positive, negative, or neutral), and the 'substantive dimension,' which refers to specific information about political candidates.

Ghanem (1997) further divided the concept of 'attributes' into four dimensions: subtopics—information attributes within a particular issue; framing mechanisms—the ways of presentation such as size and placement; affective elements—the public's emotional responses to media coverage; and cognitive elements—categories on whether the media and audience are thinking the same way. Takeshita (1997) defined the concept of 'attributes' in four dimensions with a different perspective. He defined 'attributed agenda' as: (1) 'problem definition,' which refers to "accounts of what a causal agent is doing with what effect"; (2) 'attributed causes,' which means "specifying the forces that create the problem"; (3) 'moral judgment or evaluation,' which means "evaluations about causal agents and their effects"; and (4) 'proposed remedies,' which refers to "presentation of solutions to the problem" (p.25). McCombs and Ghanem (1998) synthesized the concept of 'attributes.' In their discussion of the range of 'attributes,' they, at first, separated the "attributes of presentations," which refer to rhetorical mechanisms, and "attributes of objects," which refer to the selection of attributes. Next, they provided two attributes dimensions for "attribute of objects"—cognitive attributes and affective attributes. Through these previous discussions, generally the attributes on news *content* are summarized by the two dimensions of 'substantial or cognitive' and 'affective.'

The second-level agenda setting theory has been empirically demonstrated in various settings. King (1997) conducted a study about candidate images and voter perception during the 1994 Taipei mayoral election. The survey results showed that Taipei voters consider "ability" the most salient attribute for the three candidates. Voters' evaluation scores of candidates in terms of ability worked as a good predictor of the election outcome. His study supports that salient candidate attributes in the press came to be salient elements in the perceived images of the voters. From the perspective of the stimulus-determined thesis, it appears that the media determined which attributes the voters thought about when they thought of a particular candidate. In the Japanese general election, Takeshita and Mikami (1995) showed that the media's emphasis on particular sub-issues of political reform affects the public's perception of the importance of that same sub-issue. In the Spanish regional and municipal elections, Lopez-Escobar et al. (1997) showed that news and political advertisements' emphases on certain images of the political candidates affect voters' images of the candidates in two different dimensions: substantive and affective attributes. Ghanem (1996) found the second level of agenda-setting effect in more detailed attribute dimensions. She showed that Texas media coverage of crime influenced public concern over crime in the attribute dimensions of 'sub-topics,' 'framing mechanisms,' 'affective elements,' and 'cognitive elements.'

In sum, given that every agenda consists of multiple attibutes, these studies on attibutes imply that media emphasis on a certain attibute of an agenda tends to be causally associated with the increased susceptiblity of the public to the attibute. In this sense, journalist's practices of emphasizing or marginalizing a certain attribute of an agenda is enormously important in setting how the public perceives the agenda cognitively and affectively. Recently, an increasingly large number of studies are focusing on those practices of emphasis and the marginalization of a certain attribute of an issue and the cognitive and affective effect of those practices in the name of "media framing."

FRAMING

Backgrounds

When Goffman (1974) first introduced the concept of "primary frameworks," his point was that people tend to perceive events (realities) through primary frames, which make social interaction more likely. Borrowing Goffman's primary conceptualization, a wide range of communication scholars, from cognitive psychological schools to critical constructionists' perspectives, used framing to observe practices of journalism with awareness of a duality of everyday reality and textual rearrangement of the reality. Framing has become one of the most fashionable terms. Furthermore, the term has been widely used for describing not only the influence of news media on public opinions but also

the overall process of mass communication itself. This increasing popularity of framing perspective is in no way limited to media research, instead the concept has gained flourishing trendiness among a wide range of fields, including sociology and political science, since the 1980s (Benford, 1997). While the perspective has made significant contributions to each of those fields (Benford, 1997; Benford & Snow, 2000; Reese, 2001), the "scattered conceptualization" of framing (Entman, 1993) has been noted as a predicament for attracting generative academic discussions (Scheufele, 1999).

As Entman (1993) noted earlier that the lack of disciplinary status of communication may turn to a strength of synthesizing the concept's fragmented applications, communication scholars have continuously been attracted to the challenging goal of integrating a wide range of framing studies in regard to mass media (e.g. Entman, 1993; Scheufele, 1999). As the previous efforts noted (e.g. Pan & Kosicki, 1993; Benford, 1997), the applications of the concept in media studies are categorized in two different approaches: the cognitive (media-centric) approach and the constructive approach[18]. While constructionists' approaches have highlighted the process of meaning construction through various social

18 Benford (1997) notes that "the ambiguity of the framing concepts stems in part from the fact that "frame" has two different implications as a metaphor. On the one hand, it is used as a grammar—"a structure in which meaning is contained in and conveyed by the relationships among the elements." On the other hand, frame metaphors are used in a contextual or idenxical sense. Here, "the frame acts as a boundary that keeps some elements in view and others out of view" (p. 413).

interactions around mass media, cognitive approaches mainly have focused on the relation between media content and audience interpretations.

Given the recent increasing number of framing studies, it is surprising to find that there have been few attempts to explore framing perspective in the broader context of the paradigm of sociology or communication studies. In fact, as Benford (1997) argues, framing perspectives emerged as some scholars challenged previous rational choice perspectives and structural determinism: Scholars operating within the source mobilization and rational choice perspectives ruled hegemonically. However, in the 1980s, a spate of reviews critical of structural determinism and crass utilitarianism began to appear, thereby providing an opening in the field's opportunity structure for those interested in movement-reality construction and communication processes (Benford, 1997, p.409).

Rational choice perspectives assume that people are rational and base their actions on what they perceive to be the most effective means to achieving their goals. While rational choice perspectives or structural determinism lead to unrealistic dominance of structure over human agency or vice versa, symbolic interactionism, which the concept of framing stems from, views meanings as social products created from the interactions between structural forces and individual interpretations (Gamson, 1992; see Benford, 1997; Benford & Snow, 2000, p.614). As Gamson (1992) points out that "on the one hand, events and experiences are framed; on the other hand, we frame events and experiences"

(p.384). Framing perspectives stress the interactive meaning constructions between structural forces and audience agency.

On the other hand, the concept of framing is located in the broad context of the media effect paradigm in communication studies (see Scheufele, 1999, pp.104-105). Following previous propaganda, strong media effects, limited effects, and new strong media effects paradigms, the framing became a recent fashion of media effect paradigms finding media effect in their devices to restrict audience's cognitive ability (Scheufele, 1999). Pan & Kosicki (1993) point out that;

> Framing analysis is not constrained within the content-free structuralist approach of news discourse. Rather, it accepts both the assumption of the rule-governed nature of text formation and the multi-dimensional conception of news texts that will allow for cognitive shortcuts in both news production and consumption (p. 58).

The concept of framing has implications not only of elaborating previous mythical belief in media effects of changing audience's attitude and behavior by turning focus on cognitive process; but also of challenging previous reckless overemphasis on the active interpretation by the audience. Confronting "active audience" or "uses & gratifications" perspectives, which argue that individuals can construct their own meanings from media messages or other cultural products, (see Seaman, 1992), framing concept tends to elucidate the cognitive limits of "active audience."

Defining Framing: Two Approaches of Framing

According to Shoemaker & Reese (1996), most communication research deals with the process through which the audience receives media content or with the effect of content on the audience (Fig. 1). They name research on the first part of this process "content influence studies" and research on the latter part "process and effects studies" (p.3).

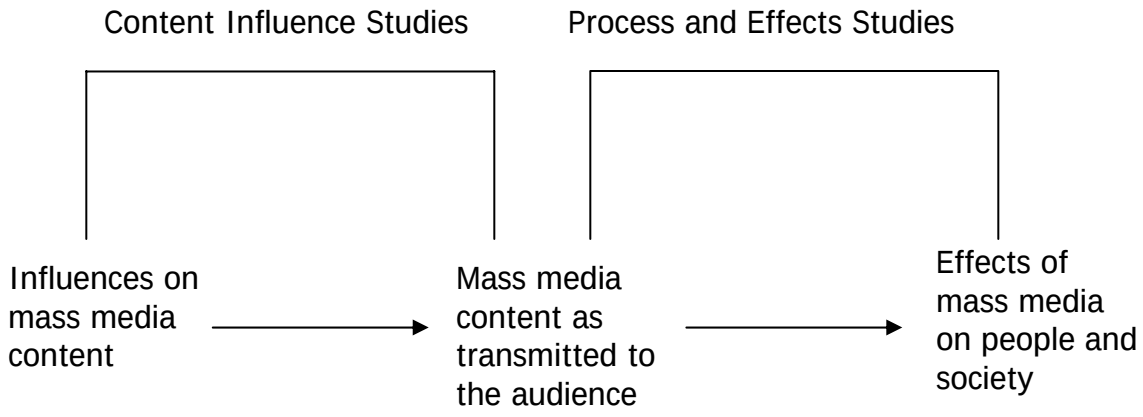

Figure. 1 The concept of communication studies (Shoemaker & Reese, 1996, p.3)

In general, the concept of framing describes a line of relations from everyday realities through media to public perceptions. While both approaches—cognitive (media-centric) approaches and constructionist approaches—include this overall relation from realties through media to audience, they vary in presenting the concept of framing as research problems according to their primary interests. First, cognitive approaches put their initial interests in the relation between media and audience, thus concentrate on analyzing media texts as psychological stimuli,

which restricts the audience's interpretations of the texts. Unlike cognitive approaches, constructionist approaches attempt to shed light on the social interactive process from reality to media, thus analyzing media texts as the consequences of interactions among social institutions. In Shoemaker & Reese's study, cognitive approaches apply the concept of framing for "process and effects studies" and constructionist approaches mainly use the concept for "content influence studies."

Constructionists Approaches

Constructionist approaches argue that meanings stem from social interactions and are subject to various interpretations. For constructionists, meaning itself is problematic; "it does not spring from the object of attention into the actor's head, because objects have no meaning. Rather meaning is negotiated, contested, modified, articulated, and rearticulated. In short, meaning is socially constructed, deconstructed, and reconstructed" (Benford, 1997, p.410). In this sense, constructionists attempt to explore the process in which a specific meaning is created from social interactions through the concept of framing.

While constructionist views of framing include and presuppose a certain pattern of individual audience's mental processing of media contents, they tend to differentiate their concept of the collective action frame from the cognitive concept of "schemata " (e.g., Gamson et. al., 1992; Benford, 1997; Benford & Snow, 2000). For example, Gamson (1992) argues that the collective action frame

is distinguished from other cognitive concepts in that "[c]ollective action frames are not merely aggregations of individual attitudes and perceptions but also the outcome of negotiating shared meaning" (p.111). That is, constructionists highlight that the social implication of a frame is not just a consequence of a cognitive restriction of an individual level, which cognitive approach emphasizes, but also it is the result of a negotiation in social collectivities. Thus, in constructionist approaches, the media become "general audience media" (Gamson & Modigliani, 1989): a site in which symbolic competitions over the definition and construction of social reality carry out among contesting social forces of meaning (Gamson et. al., 1992). For example, in their study of media discourse on nuclear power, Gamson & Modigliani (1989) suppose that media discourse on nuclear power has included the competing discourses of specialists, officials, and challengers. As the consequence of the competitions among those social discourses, Gamson & Modigliani (1989) insist, media discourse has turned to "a set of interpretive packages," or a *frame*, that gives a certain meaning to the issue of nuclear power.

The primary tasks of collective action frames—the constructionist concept of frames—include problem identifications and direction of attribution (Benford & Snow, 2000). First, collective action frames attempt to identify which condition or situation is problematic or in need of change. Gamson (1992) calls this core task the *injustice component*, which refers to "the moral indignation expressed in

this form of political consciousness" (p.7). The second task is to make attributions regarding who or what is responsible for social problems. Iyengar's experimental study on television news (1991) soundly documents this attribution task of frames in spite of its overall cognitive approach to frames. His experiments show that people who are exposed to episodic framed news stories are more likely to consider individuals responsible for various social problems, including unemployment and poverty, while people who are exposed to thematically framed news stories are more likely to attribute the cause and the solutions to social institutions and government policies beyond the individual's responsibility.

While the approaches appropriately focus on "content influence" process, they have not suggested any empirical explanation of the process through which media content directly or indirectly restricts audience perception of social realities. In addition, the approaches tend to overlook the significance of journalists' practices and activities by supposing media content as the consequence of interaction among other social discourses. Compared to this constructionist approaches, research in cognitive approaches are more likely to concentrate on the empirical process through which media content restricts audience's psychological reception and emphasize the implication of journalists' professional practices of inclusion and exclusion (Durham, 1998).

Cognitive (Media-Centric) Approaches

Contrary to Pan & Kosicki's (1993) assessment of framing analysis that "unlike the traditional approach to content analysis, framing analysis does not conceive news texts as psychological stimuli with objectively identifiable meanings; rather, it views news texts as consisting of organized symbolic devices that will interact with individual agents' memory for meaning construction" (p. 58), much research in framing studies rests on the simple equation of media texts with psychological stimuli, which leads to a certain pattern of audience response.

Entman (1993) provides a famous definition of framing as following:

> To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation and/or treatment recommendation for the item described (p.52).

That is, framing is a set of journalists' practices of selecting and emphasizing a certain part of social reality in order to promote public opinion in a specific way. Similarly to Entman's definition, Gitlin (1980) proposes the concept of frames as "persistent patterns of cognition, interpretation, and presentation, of selection, emphasis, exclusion, by which journalists routinely organize discourse, whether verbal or visual" (p.7). Cognitive approaches propose that these frames work at two levels: as rhetorical devices and as mentally storied principles for information processing (Entman, 1991; Thorton & Shah, 1996). First, at the rhetorical level (textual level), "news frames are constructed from and embodied in the keywords, metaphors, concepts, symbols, and visual images emphasized in a news narrative"

(Entman, 1991, p.7). Second, the mental string process can be explained as "schema", i.e., an understanding of the reality guides the audience's interpretation of initial information and their processing of all related information (Entman, 1991). More specifically, cognitive approaches explicate "schema" through the mental process of activating previous knowledge in the interpreters' memory. That is, news texts, which are constructed from journalists' practices of selection and emphasis, activate only a restricted range of working memory; thus leading to a mental picture or discourse of actors, events, settings and consequences (Iyengar. 1991; Rhee. 1997).

Many studies using this cognitive concept of framing rest their theoretical ground on Tversky & Kahneman's empirical study (1980). In their experiment, Tversky & Kahenman (1980) demonstrated that a slight descriptive variation could lead to a significant change in participants' evaluation of a phenomenon.[19] That is, the descriptive variation calls interpreters' attention to particular aspects of the reality and activate a specific set of previous knowledge related to the reality (Entman, 1993). Based on this theoretical conceptualization, many studies applying the cognitive concept of framing tend to highlight journalists' work of selection, emphasis, and description as the primary source of frame at the expense of questions on the relation between media and other social institutions as

19 For example, when Tversky & Kahneman (1980) ask participants to choose a US policy to save people, their responses significantly vary according to a way of describing the efficacy of the

meaning producers (e.g. Iyengar, 1991; Entman, 1991; Entman, & Rojecki, 1993; Solomon, 1992; Rhee, 1997; Liebes, 2000). For example, Entman & Rojecki (1993) argue in their analysis of media framing of the U.S. anti-nuclear movement as following:

> [w]e find that several kinds of judgments apparently made by journalists that filter into the news and, in turn, likely affect the movement's ability to build consensus and mobilize participation. These we call journalists' framing judgments, which journalists make in the course of selecting and conveying information about the movement. The judgments, we believe, are heavily influenced by elite sources and, it appears, by an underlying professional ideology ambivalent toward public participation (p.155).

Following this logic, many studies in the cognitive approaches attempt to find the normative implications from problematizing journalists' practices, which are embedded in journalists' professional routines[20]. Cognitive approaches, which look news media as journalists' meaning production, often create the somewhat simplified[21] notion of *media hegemony*, which refers to the process of producing dominant power through media (Durham, 2001). For example, based on his definition, Gitlin (1980), in his analysis of mainstream news coverage of the New Left and the student movement of the 1960s, illuminates the frame as the site where dominant social power is produced. His analysis shows that media frames

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policy: "200 people will be saved" among 600 people (72% favor) or "400 people will die" among 600 people (22% favor).

20 In his comparative study, Entman (1991) problematize the role of journalists as "judging elites" and points out that "when newsmaking elites offer scant challenge to a dominant frame, an authorized position tends to permeate the news texts" (p.24).

21 Their notion of hegemony is, to some extent, oversimplified in that they often simply identify journalists with ruling class.

in covering Students for a Democratic Society (SDS) trivialize, marginalize and polarize the effectiveness of SDS and emphasize the negative facet of the movement. Hallin (1986) also shows that the media coverage functioned to establish the order of the Cold War through the exclusion of alternative voices from Central America in his study of the media coverage of Central America in the 1980s.

In summation, framing has been a useful tool for communication researchers to observe the practices of journalism and the influence of the practices on audience's perception of the world within the duality of everyday reality and the textual rearrangement of reality. Both constructionist and cognitive approaches to framing share the same concern that our perception, whether it is individual or collective, of reality does not always follow a rational model; that is, a slight modification in presenting a reality may result in a significantly irrational conclusion in shaping our opinion on the given reality. While the cognitive approach emphasizes irrationality as a limit of individual cognitive ability , the constructionist approach argues that this irrationality is a result of the interactions among various social groups.

Polls and Presidential Popularity

Since the beginning of modern polling in 1935, the news media have always paid more attention to political polls than other polling topics. While human interest topics and others have been increasingly polled, the great success of the Gallup Poll and other polling agencies could be achieved only through election-related questions (Crespi, 1980a). Given that American politics cycles every four years with the presidential election, it was necessary for the polling agencies to come up with political questions to fill the non-election years in between. Since the Gallup Poll first asked the presidential approval question in July 1939, this question became more frequent and soon one of the most important topics for the polling agencies to measure regularly (Crespi, 1980a)[22]. As the presidential performance poll was conducted more frequently, its political importance became so significant that even some scholars call it "a part of America's unwritten constitution" (de Sola Pool, 1980, p.48) or "the perpetual election" (Hodgson, 1980, p.220). The importance of the presidential performance polls can be noted in three specific senses: first, evaluations of presidential performance influence voters choices in both presidential and congressional elections; second, approving ratings influence the behavior of presidents such as

[22] According to Crespi (1980a), the frequency increased since the first poll and questions about presidential approval became a regular feature of the Gallup Poll in 1951 (p.30).

boldness of legislative agenda or decisions to use military force; and finally, the rating number is used as a rhetorical device for persuading other political actors (Simon & Ostrom, 1989; Baker & Oneal, 2001).

From the early era of president approval polls, social scientists noted that public assessment of the president is not so directly affected by the president's acts as by other symbolic events the public experienced, or, as Lippmann (1922) described them, the "pictures in our heads" (e.g., Mueller, 1970, 1973; Brody & Page, 1976; MacKuen, 1983). Mueller (1970, 1973) first described the symbolic events affecting presidential popularity as "rally events," measuring the relationship between international events involving the U.S. and the variance of presidential ratings. Mueller (1973), more specifically, developed four variables in an attempt to predict presidential approval ratings: the four variables were " the length of time the incumbent has been in office as well as variables that attempt to estimate the influence on his rating of major international events, economic slump, and war" (p.197). He, in this seminal study, identifies a couple of important trends in tracing the fluctuation of presidential popularity : "coalition of minorities" and "rally around the flag." First, "coalition of minorities" represents a trend in which those who are alienated by presidential action on given issues would accumulate over presidential incumbency so that presidential popularity tends to move down by the disapproval of those minorities over the presidential term. Second, "rally around the flag" is defined as a trend in which crises in

international politics tend to promote public support for the president. Mueller (1993) explains that " in general, a rally point must be associated with an event which (1) is international and (2) involves the United States and particularly the president directly, and it must be (3) specific, dramatic, and sharply focused" (p.209). Mueller argues that the combination of these trends, "coalition of minorities" and "rally around the flag," creates a steady decline in popularity over long period of time, which is often interrupted by a rapid rise of popularity created by international crisis.

Many relevant studies followed Mueller (e.g., Kernell, 1978; Brody & Shapiro, 1989, 1991; Parker, 1995; Baker & Oneal, 2001; Gronke & Brenhm, 2002) and confirmed that some dramatic international events directly involving the U.S. have an effect of uniting the nation as a whole, and so boost presidential popularity for a relatively short period of time. As Baker and Oneal (2001) described, the nature and origin of the rally effect has been studied in two different theoretical approaches. The first approach is what Brody (1991) called the "patriotism" explanation: in times of international crisis, the public "focus uncritically on and unite behind the commander-in-chief in a show of patriotic support" (Baker & Oneal, 2001, p.667). The second approach is so called the "opinion leadership" explanation: in times of crisis, the public is unable to access various information sources, which were available in normal times, to make judgment, and the president can enjoy more information access that other political

actors are denied. Showing the rally effect, previous studies showed more interest in analyzing the influence of wars, among many international events, involving the U.S. and the number of casualties during the wars on the ratings.[23] In analyzing the impact of rally events, Brody & Page (1975), Simon & Ostrom (1989), and Baker & Oneal (2001) found that news media coverage of the rally events is one of the significant factors influencing the variance of rally effects on presidential popularity. For example, Baker & Oneal (2001), in their analysis of the *New York Times*, showed that when a MID (Militarized Interstate Dispute) is reported in a *New York Times* front page headline (i.e., presumably the most important story of the day) the rally effect of the MID is greater than those that appeared elsewhere. That is, the way the news media present the rally event is deeply related to the magnitude of the rally effect on presidential popularity.

While most relevant studies following Mueller (1971, 1973) found that significant international events involving the United States tend to raise, albeit for a short period, presidential approval rating, some studies (e.g., Brody & Shapiro, 1989; Edwards, 1990; James & Oneal, 1991; James & Rioux, 1998) have cast doubt on the significance of the rally effect in explaining presidential popularity (Baker & Oneal, 2001). For example, Brody and Shapiro (1989), in their analysis of 45 situations expected to show a rally effect, found that the rise in presidential

[23] According to Mueller (1970, 1973), an international event can generate a rally effect only when it satisfies three criteria: "(1) it must be international in nature; (2) it must involve the United

approval rating produced by the situations, on average, was less than 3%, and 20% of the events actually led to a drop in the rating. James and Rioux (1998) also found only small and short-lived rally effects of between 3% and 4% on average when a president met an international crisis. In a similar sense, Kernell (1978) found that while there exist significant correlations between rally events and presidential approval rating, the strengths of these correlations varied to a large degree, depending on the incumbent's previous popularity and the perceived political importance of the given rally events.

Of course, the symbolic experiences of the public cannot explain all of the variance of presidential popularity. The effect of economic factors, such as unemployment, inflation, and economic expectations, on presidential ratings has drawn considerable attention from social scientists. For example, the findings of Mueller (1970, 1973), Hibbs (1979), Stimson (1976), MacKuen (1983), Norporth (1996), and Gronke & Brehm (2002) confirmed that there is a clear relationship between economic conditions and the public assessment of the president. Given those findings, Kinder (1981) investigated the effect of economic conditions on presidential popularity in two different senses. Distinguishing personal experience and public experience of economic conditions, Kinder found that citizens' assessment of economic condition as part of the greater public—"a sociotropic assessment"—is more powerfully related to their evaluation of the incumbent

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States and the president directly; and (3) it must be specific, dramatic, and sharply focused"

president than their feelings as private individuals.[24] Given that public assessment of the economy must, to a large extent, rely on media presentation of others' experience (see, Wu et al., 2002; Hibbs, 1979), this finding implies that looking at economic conditions as a non-symbolic (objective) factor influencing popularity could be, at best, an oversimplified explanation of the relationship or even a misconceptualization of the causal direction of the relationship. In fact, Kinder's analysis showed that citizens' public sociotropic assessment of economic condition both causes and is affected by presidential popularity [25](see also Norporth, 1996).

In addition to economic factors, one of the most important findings about presidential ratings is that presidential approval rates tend to decrease over the period of presidential incumbency. This so-called "natural erosion" hypothesis has been supported by many previous studies (e.g., Mueller, 1970, 1973, Stimson, 1976; Tatalovitch & Gitelson, 1990; Baker & Oneal, 2001). As discussed, Mueller (1970) attributed this tendency to a "coalition of minorities" impact; minor voter blocs, who once supported the president, become less supportive of the president as he makes more decisions during his time in office. Even though each decision the President makes may gain acceptance from the majority, each

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(Baker & Oneal, 2001, p. 664).

[24] Political research, broadly speaking, agrees that "sociotropic" assessments carry more significant weight for electoral decisions (Norpoth, 1996, p. 780).

[25] Kinder (1981) found that a president's supporters tend to keep more optimistic expectation on economic conditions than do presidential critics.

decision is also likely to dissatisfy at least a small group of people (Sigelman & Knight, 1983). Following Mueller, Tedin (1986) and Tatalovich and Gitelson (1990) found that party identification is the most decisive factor to explain a "coalition of minorities" effect. Unlike core supporters, the supporters who favor the opposition party over the presidential party are unstable in their rating of the president. For example, when a Republican candidate is elected president, he tends to receive support from Democrats during the early term around his inauguration, but the support is more likely to become unstable and decline over the president's term. On the other hand, Stimson (1976) and Sigelman & Knight (1983) attempted to find the reason for "natural erosion" in the "inevitable disjuncture between presidential promise and performance" (Sigelman & Knight, p. 312). They argued that it is inevitable that the lack of fulfillment of promises that the president made during the campaign and inauguration will later produce disaffection from "once bemused supporters" (Mueller, 1973, p. 206). Stimson (1976) implied that this natural erosion resulting from voters' "expectation/disillusion" demonstrates that the American public is ill-informed on politics and does not have well-developed policy preferences. This lack of information and preferences results in the increasing influence of strategic events by political actors.

Almost all relevant studies considered both the effect of rally events and these economic and/or "natural erosion factors" in their investigations of

presidential popularity ratings. For example, Mackuen (1983)'s analysis of the dynamics of presidential popularity from 1963 to 1980 showed that both economic components and political events are valid factors in the movement of presidential popularity. His empirical model demonstrated that each component has different levels of weight and duration in influencing public assessment of the president. However, it is important to point out that most of the previous research on presidential approval ratings, with only a few exceptions, have overlooked the constructive nature of presidential popularity ratings as both cause and effect, attempting to explore the ratings only within "objective" relationships among given factors. But, as some studies implied, for ordinary citizens to be aware of the current status of presidential popularity means more than simply knowing how others have judged the president (e.g., Kinder, 1983). If presidential popularity has a symbolic connection to presidential power, it is no wonder that presidential popularity ratings are not just a mechanistic reflection of given factors (such as unemployment, inflation, GNP growth, etc.), but instead are a constructive force in the performance of further political action. By the same token, if the rating numbers have symbolic meaning, it is no wonder that citizens' exposure to the numbers, in turn, affects their assessment of the president and his political actions.

Chapter 3. Hypotheses and Variables

Noelle-Neumann's theory of the spiral of silence suggests our society is engaged in a dynamic system by which the public tends to move to the majority opinion while minority opinions remain unheard. However, as discussed in the previous chapter, later studies found that there are a couple of necessary pre-conditions for the spiral of silence to operate. One of the most important pre-conditions is that there needs to be enough media attention to an agenda, and, thus, people's interest of the agenda becomes intense enough for them to be aware of differences of opinions (see, Jeffres et al. 1999). In addition, this study suggests that it is necessary that the media presentation of an agenda is informative enough to provide information cues that show which opinion is on the rise and which opinion is not. Since previous studies have shown that our statistical sense can be easily messed up by any nuance in the way media present reality, the way media present the climate of opinion is another ingredient of importance in the process of the spiral of silence. In this sense, the previous chapter discussed that the spiral of silence process can best be researched when the active function of the media in the formation of the public opinion is also significantly considered in terms of the agenda-setting and media framing.

The principal purpose of this study is to explore the influence of the news media on the cyclical formation process of public opinion with the case of

presidential approval rates from the last forty years. To explore this relationship empirically, this study investigates the historical fluctuations of presidential approval ratings, which have been regularly measured since the 1950s, and how the *New York Times*' presentation of the ratings has itself influenced public opinion on presidential popularity for the last forty years. The presidential approval rates of the last forty years provide a good case of exploring the spiral of silence process with consideration of the active function of the media. Over the past forty years, media attention to the presidential approval rates has been varied, thus assuring us that the public exposure and interest to the rates also has fluctuated with the varying degree of the media attention. Also, since the media coverage of the presidential approval rates includes both raw information of the opinion polls (i.e., percentages of approval) and their own informative cues in regard to the raw numbers, another ingredient is also present.

As argued, the main goal of this study is not simply to explore the effect of the news frames in presenting the poll on public opinion; instead what this study wants to demonstrate with this case of presidential approval rates is the spiral process of forming public opinion, whereby we can identify the way that the news media reflect public opinion, and the presentation of the public opinion by the news media, in turn, move public opinion in a certain direction. Identifying the reciprocal relationship, if the overall process of forming public opinion follows the spiral of silence theory, the investigation of the relationship will demonstrate

the significance of the causal association between the media coverage and public opinion not just in one way but in both ways, from public opinion to the media and from the media to the following public opinion. In this sense, the hypotheses of this study consist of the tentative arguments on the causal associations between the media coverage and public opinion in two directions.

Hypotheses

HYPOTHESES A: THE EFFECT OF PUBLIC ON THE COVERAGE OF THE MEDIA

The evidence from previous studies suggests that media coverage of an issue cause an increase in the number of people concerned about an issue; and at the same time the amount of coverage media devoted to an issue is influenced by the public (see Smith, 1987). However, the question how the public affects news-making decisions has been asked less frequently in the studies of public opinion. When the news media cover the public opinion on a given issue, news making involves two separate kinds of activities: gathering public opinion and deciding on the newsworthiness of given public opinion. Journalists apply various methods to gather public opinion. They have interviewed people on the street, at bars, and in many other public spaces to gather public opinion since the early era of journalism, but recently journalists are increasingly making use of public opinion

surveys in representing public opinion on any given issue (Crespi, 1980b; Smith, 1987;Carey, 1995; Fuse, 2000). And more importantly, when public opinion on a given topic is available, journalists do not automatically translate the public opinion to their news coverage; rather, it is the decision of journalists to determine the news value of the public opinion. That is, as more and more information from public opinion surveys become available, journalists' decisions on the newsworthiness of a survey result is increasingly important. In the case of public opinion on presidential performance, a recent study showed that some news media are more likely to report public opinion on the presidential approval when the opinion poll indicates that the approval rate is declining (Groeling & Kernell, 1998).

As discussed in the previous chapter, one of the theoretical problems with the spiral of silence is that it assumes we have a *constant* level of susceptibility to the climate of opinion; and the media are always paying a good amount of attention to the given issue so that we can be aware of the climate of opinion. Unlike this assumption, the agenda-setting approach suggests that our world consists of innumerable agendas and that we can be aware of only a limited number of agendas in a given moment. Even in the case of usual agendas such as economy, education, environment, taxation, crime and others, agenda-setting research suggests that the degree of media attention to those agendas is varying in accordance with the certain condition of a given moment. Then, what makes some

agendas more salient than others and the media be more attentive to those agendas? Obviously, the salience of an agenda to the media is a combination of various factors such as “timeliness,” “expected consequence,” “proximity,” “relevance,” and other propensities of the agenda. This study expects that two important attributes—convergence and change—in public opinion have an effect of making the news media report the public opinion more likely.

H A-1. Convergence Hypothesis:

The lower/higher than intermediate level a presidential approval rate is, the more the *NYT* is likely to report the approval rate

With the hypothesis H A-1, this study argues that convergence of public opinion is an important factor of raising the salience of the presidential approval rate to the media. An approval rating represents an unusual news item in that while the polling agencies continuously update public evaluation of the president’s performance, the evaluations are occasionally delivered to the public only when the news media find it newsworthy (Groeling and Kernell, 1998). This study expects that the convergence of public opinion, whether from the approving side or disapproving side, has made the *New York Times* be more attentive to the current rate of public evaluation of presidential performance itself. More specifically, given that the average presidential approval rates are in the mid-50

percentile and the “no opinion” response has been consistent at 13 percent for the last forty years of presidential approval series, this study hypothetically argues that the *NYT* has been more likely to report a presidential approval rate when the poll number indicates the existence of a clear opinion majority either approving or disapproving the presidential performance than it indicates public opinion normally divided around 50 percent in a given month. The null hypothesis holds simply that no relationship exists between the president’s approval ratings and the number of the *NYT* articles reporting presidential approval rates in a given month. If the null hypothesis is rejected with a statistical confidence, this study projects a U-shaped line across the range of presidential approval rate showing that the number of the *NYT* articles reporting the rates are maximized in both ends of the range and bottoms out at the intermediate range of the presidential rate. By using a quadratic regression analysis, this study will test this U-shaped relation between the presidential approval rate and the number of *NYT* articles reporting public opinion on the presidential performance in a given month.

H A-2. Change Hypothesis:

The more a presidential approval rate changes since its previous month, the more the *NYT* is likely to report the approval rate.

With the hypothesis H A-2, this study tests the relationship between the magnitude of change in the presidential approval rate and the number of the *NYT*

articles reporting public opinion on the presidential performance. While the first hypothesis focuses on the convergent status of public opinion, (i.e., indication of opinion majority), the hypothesis H A-2 predicts that the margin of change, either increasing or decreasing, influences the *NYT*'s decision to report the presidential approval rate in a given month. As in the case of the first hypothesis, this study expects also that there exists a U-shaped relation between the margin of change and the number of *NYT* articles, showing that the number of *NYT* stories is maximized when the presidential rate has rapidly changed since the previous time and the number is minimized when the rate has not changed at all.

For the test of both hypotheses, it is important to note that the salience of the presidential approval rate to the media is not solely decided by the attribute differences of the presidential approval rates themselves; rather, as shown in the previous chapter, other factors may influence the salience of the agenda such as the occurrence of important political events, the duration of incumbency or economic status of the given moment. For example, presumably journalists are more interested in public opinion on the presidential performance before the second-term presidential election than the approval rate of a president in his second term. In this sense, the tests of both hypotheses should be accompanied with controls of these extra variables, most notably 1) the occurrence of political events, 2) economic status, 3) duration of incumbency, and 4) first term/second term. Only then, after controlling the effect of these variables on the number of *NYT* articles, the tests will indicate that the U-shaped relations exists between the test variables and both hypotheses can be supported.

HYPOTHESES B: THE EFFECT OF THE MEDIA ON PUBLIC OPINION

While this study explores the reciprocal interactions between public opinion and the media, the most important goal of this study is to find the effect of the media on the formation of public opinion. This study investigates the significance of media's effect on public opinion in two ways. First, this study attempts to find that the media have the significant effect of making public opinion more changeable; that is, if the media affect public opinion by making it more static rather than making it more volatile, it is hard to argue that the overall spiral process of forming opinion is associated with the media. Second, if the overall process follows the spiral of silence, the media effect of making public opinion volatile must have directional tendencies of conforming with the public opinion they are representing; in other words, unless the media have the effect of making the strong opinion stronger and the minor opinion weaker, the association between the media and public opinion will not result in the spiral of silence.

Given the diversity and complex contextual relations of opinion polls, it is not surprising that many previous studies on public opinion did not find a conclusive effect or a unidirectional influence of publicized polls on public opinion (De Vreese & Semetko, 2002). However, numerous studies on the effect of polls on voters' decision-making process proposed that there exists a general

trend – the bandwagon effect of polls – in political campaigns (e.g., Atkin, 1969; Ceci & Kain, 1982, Glynn & McLeod, 1982). These studies generally reported that the information that one candidate or issue is supported by a majority causes voters to shift support to the more popular candidate or issue. As Atkin (1969) notes, "majority" should not be defined as simply a bigger number among comparable groups; instead a *relative majority* is perceived by the public when they find a perceptual discrepancy between their previous estimate and new information on a given opinion configuration. In other words, a temporary concept of majority produced by rising opinions or declining opinions, as compared to previous estimates, should be considered a critical component of the bandwagon effect.

Noelle-Neumann (1993), in her advanced explanation of the spiral of silence, argued that the major motive of this bandwagon effect is the 'fear of isolation:' most people do not follow the majority opinion for the purpose of winning power by being on the winning side; rather the force to make a majoritarian opinion appear to be the winning side is people's desire to avoid isolating themselves from the majority. According to her, it is our *social nature as human beings* to fear isolation from our fellow humans and this nature contributes to successful social life (pp.39-41). But, in a conflicted situation, this nature turns a main motive to make it hard for different groups of a society to communicate with each other so that may result in a misguided perception of the climate of

opinion. As Noelle-Neumann noted, early Asch's length-of-line experimental study (1952) effectively demonstrated that our fear of isolation may influence our ability to perceive and judge even in a relatively clear situation. Noelle-Neumann (1977, 1993) argued that this fear of isolation, in general, results in a spiral process in which people feel the need to observe and follow the changes of public opinion so that a majority opinion prevails while other opinions are silenced. This spiral of silence process, Noelle-Neumann (1977) argued, may explain some patterned misjudgments of public opinion by the public such as "pluralistic ignorance": especially in a dual-opinion situation (such as a two-party system), this spiral of silence process may result in polarization of opposing opinions so that members in one opinion group over-evaluate their opinion while being ignorant of the opposing opinion (p.144).

H B-1. Additive/Subtractive Effect Hypothesis:

When other things are controlled, the publication of presidential approval rates by the *NYT* has an additive/subtractive effect on the subsequent approval rates.

Drawing on the previous findings, this study expects that the news media's reports of presidential approval rates influence the public to favor the inclining opinion, thus amplifying the inclining/declining tendency. Given that a number of factors influence public opinion, the bandwagon effect of polls cannot be

expected to cause a large-scale shift (Traugott, 1992; De Vereese & Semetko, 2002, p. 368). Instead, it is more reasonable to expect that the effect will be observed in an "additive/subtractive" way; that is, while not causing a directional change in public opinion, the media reports of polls lead to small (but patterned) additions to the given majority. Here it is important to note that the media report of presidential approval rates may indicate two different senses of opinion majority; when the media report the rating number, the media not only offer a raw number of the presidential approval but also indicate how much it has changed since the previous poll. That is, in usual cases, the media indicate both *majority*, the simple number of the approval rate, and *relative majority*, the additional information on the change of the approval rate.

Obviously, indicating *relative majority* demands a process of interpreting the meaning of the raw number of current approval rating and it is not as simple and apparent as delivering the raw number of the public opinion poll. For example, when a public opinion poll shows the current presidential approval rate has increased by 2 percent since the previous poll, the meaning of the 2 percent increase may be framed into a "stable" approval rate or an "inclining" trend by the news media. This study, applying a content analysis, identifies how the news media present certain rating numbers to create an inclining or a declining meaning from those numbers and analyzes whether the indication of *relative majority*

along with the indication of simple *majority* by the *NYT* has an additive/subtractive influence on the subsequent approval rates.

H B-2. Volatility Effect Hypothesis:

The frequent publication of presidential rating polls by the news media has caused the public opinion on presidential approval to become more volatile.

In financial economics, 'volatility' often refers to uncertainty or risk of a market. Given the importance of predicting the volatility of a market, volatility has drawn great interest from researchers (e.g., French et al., 1987; Engle & Ng, 1993). While it is beyond the scope of this study to discuss volatility in financial economics, it is generally assumed that the volatility of a market changes over time, and the change is, to some degree, positively related to the amount of information available to the market, which often includes the change of the future market (see Engle & Ng, 1993). Some communication studies imply that certain economic news reports are important factors in the change of economic *reality* by influencing public evaluation of the economic *reality*. For example, Wu et al. (2000)'s study of economic news shows that people are more likely to be influenced by certain information (recession news) under given circumstances (economic recession). Their study demonstrates that, while controlling for

economic *reality*, media coverage of the economy is a good predictor of the public evaluation of the economy, especially during the downturn period. Also, Stevenson et al.'s (1994) time-series analysis of media coverage of economic recession suggests that a cyclical model may offer the best explanation of the relationship between public opinion on economic reality and media coverage of the economic reality; that is, while public evaluation of the economy is a stronger predictor of media coverage of the economy, media coverage of the economy, in turn, picks up public concern and influence on public evaluation at a later date.

In a similar sense, some researchers in political science use 'volatility' to refer to "rapid and extreme change in political processes or behavior" (Maestas & Preuhs, 2000, p. 95). For example, volatility in presidential approval rates illustrates the degree of uncertainty of an aggregate approval rate from a poll to the next poll, as a function of other conditional changes. In their analysis of presidential approval ratings from Eisenhower to Reagan, Edwards and Gallup (1990) note that presidential ratings are relatively less volatile, compared to the changes of other social indexes. Public evaluation of the presidents, they argue, is generally not subject to sharp changes, since it tends to be mediated by other more stable factors regarding politics (most notably, by party identification). That is to say, presidents, in general, receive high support from the members of their fellow partisans and this support tends to be stable over time (Edwards & Gallup, 1990). Edwards and Gallup (1990), however, show that while the approval ratings have

been mostly consistent with party identification throughout the researched period, the standard deviation of the ratings has not been stable throughout different administrative terms. Their analysis shows that the standard deviation of the ratings in the 1960s and 70s (i.e., Kennedy-Johnson, 13.5; Nixon-Carter, 12.2) is larger than previous terms (Eisenhower, 6.9), while the standard deviation of the 1980s decreased to the level of the 1950s (Reagan, 7.7). Edwards & Gallup (1990) argue that this instability is mostly related to the decrease of party identification, but it is obvious that we need more explanation especially when we consider that the change of the presidential approval ratings is much sharper than the decrease of party identification. Moreover, while Edwards and Gallup (1990) analyzed the standard deviation of the approval ratings for the purpose of discussing volatility, whether the simple analysis of the standard deviation is appropriate in showing the change of volatility is arguable in that the method cannot control the impact of other contextual variables on the approval ratings.

One of the primary interests of this study is to link increased volatility and publicized polls. Although few studies have yet investigated the effect of the news media on volatility, previous studies suggest the possibility that publicized polls influence volatility. It is especially noteworthy that relevant studies on financial economics often attribute unexpected change in markets to the availability of new information (see Engle & Ng, 1993). As for political volatility, we can expect from previous communication studies that at least two social tendencies are

related to the dynamic of volatility. First, the loss of deliberation in the political decision-making process can be related to the increased volatility (Gronke & Brehm, 2002). Second, the increased sensitivity of the public to political information, especially campaign information framed in a “horse race” manner, is also related to the dynamic of volatility. In both ways, it is reasonable to expect that frequent news media reports of publicized polls are tied with greater volatility in presidential approval rates.

Chapter 4. Method of Analysis

One factor missing in many previous studies on public opinion is that the measurement of opinion change *per se*; most studies on the subject are limited to either a single time point measurement or an experiment of individuals' psychological changes. Since it is hard to capture the shift of public opinion in any dynamic way by using this cross-sectional approach, many studies do not offer evidence of a significant change in public opinion taking place (Katz & Balsassare, 1994). In media studies, most research found that media effects can be explored on the main variables such as "real-world conditions," "media representation of the real world" and "public perceptions of the world," but the difficulty is that the relationships among those three variables are not fixed in one direction; rather they may have a causal influence on others in simultaneous ways (see, Smith, 1987; Blood & Phillips, 1997). In this sense, some previous studies called for more analyses with longitudinal data so that we can trace the dynamic of public opinion in its formation and fluctuation (Smith, 1987). Especially, time-series data are useful in identifying the association of related variables in the dynamic of public opinion in that the variables influence each other simultaneously and the causal association among the variables can most often be identified only with some lag period.

Despite its necessity, not many studies have applied time-series data for their investigation of public opinion. One of the reasons is that it is relatively hard

to acquire time-series data that fit their research interests; it takes extraordinary effort and financial resources to keep a record for a series on a regular base for a long period of time. Another problem is that empirical investigation of time-series data demands a sophisticated statistical skill for dealing with the special characteristics of time-series data. Since many time-series data have distinct characteristics that make themselves non-stationary for a long-range of period time, simple cross-sectional statistics cannot be applied. For example, the time-series of presidential approval rates have the tendency to wander around as if they had no-fixed mean, while the current level is depending on the previous level of public opinion. This non-stationary and auto-correlated characteristic demands an innovative approach to explain the dynamic of the time-series.

While the goal of this study is to explore the cyclical process of the formation of public opinion, a methodologically specific aim of this study is to draw attention to the usefulness of a recently introduced time-series method for analyzing nonstationary data and its application to the empirical problem of detecting the effect of media on public opinion. More specifically, the methodological goal of this study is to find a better model for forecasting presidential approval rates and so, too, measure the additive/substractive effect of the publicized opinion polls accurately within the model. Recently, Maestas and Preuhs (2000) and Gronke and Brehm (2002) introduced a statistical method, ARCH (autoregressive conditional heteroskedacity) model, to examine a time-series data and suggested how the model can be useful in modeling the "volatility" of political processes. Furthermore, Gronke and Brehm's method

(2002), based on some studies in the field of econometrics, suggested that the causal association between the "volatility" and other variables can be identified with a modified ARCH model (ARCH-m). This study argues that this ARCH-m, more specifically a mean model with ARCH error— $Y_t = \beta_0 + \beta_1 X_t + \rho Y_{t-1} + (v_t h_t^{1/2})$, will provide useful insights to explore the effect of the media on the dynamics of the presidential approval ratings.

Before analyzing the effect of the media on public opinion with time-series models, this study examines two important hypotheses testing how *convergence* and *margin of change* in public opinion polls affect the news media to report the public opinion polls. As this expects that the relation between those two testing variables and the number of the *NYT* have a curvilinear relation, this study applies a quadratic regression analysis method, which is useful in identifying a U-shaped curvilinear relation among variables. For both statistical techniques, each variable is measured and transformed to a monthly time-series data from the last forty years. Two software packages, SPSS 11.0 and EVIEWS 3.1, are used for identifying quadratic regression models and time-series models, respectively.

Variables and Data

For both quadratic regression analysis and time-series analysis, this study draws on three primary sources of monthly time-series data: (1) a content analysis of the *New York Times* from 1963 to 2002; (2) Gallup presidential approval polls

from 1963 to 2002; and (3) other sources of controlling variables (political events, economic status variables and others). Even though the presidential approval rates have been regularly investigated by the Gallup and other polling agencies since the early 1950s, the *New York Times* paid almost no attention to the poll results until the mid 60s. Since there were almost no *NYT* articles reporting presidential approval rates until the mid 1960s[26], this study limits the analyzing period to the last forty years from Jan. 1963 to Dec. 2002. Each series of the analyzing period comprised 480 observations, and the time unit of analysis was 1 month. How each variable was retrieved is detailed in the following section.

CONTENT ANALYSIS: MEDIA COVERAGE OF PRESIDENTIAL RATINGS

In order to retrieve media coverage of presidential approval rates, this study applies a content analysis exploring how a leading newspaper, the *New York Times* (*NYT*), has covered opinion polls on presidential approval rates for the last forty years. The main advantage of the content analysis is that the method enables researchers to analyze trends over a long period of time by making a large amount of messages more accessible. In this project, the content analysis covers the whole phase of the presidential rates series from 1963 to 2002. For the proposed period of news coverage (1963-2002), this study uses the *New York Times* Index ("_____administration" under "public opinion") to retrieve relevant *NYT* news

[26] Only 2 relevant articles are identified in the period.

stories. Among the articles indexed in the category, articles that do not cite specific poll results on presidential approval ratings or cite only a specific dimension of presidential approval (e.g., approval of president's handling of foreign policy) are excluded for the consistency of data collection. Also, news stories that do not pertain to the incumbent president are also excluded. This filtering process produces 447 *NYT* news stories, and this study transforms these stories into a monthly series.

While the content analysis has an advantage of investigating a large amount of data, it has a disadvantage in that the method is more vulnerable to researchers' personal values and preferences. That is, it has a risk of being affected by researchers' bias, when the data are manually coded. Even though the risk can be reduced by using multiple coders and being more careful with inter-coder reliability, it is integral to construct more specified coding categories to reduce coders' bias. In other words, identification and categorization of the variable is the most important part of the content analysis. In this study, the content analysis of the coverage of presidential approval rates and exploration of the visibility of polls investigates several aspects of the news coverage: (1) the frequency of the coverage in a month, (2) the reported presidential approval rates and (3) the frames of the coverage (among inclining/remaining high/unchanged/remaining low/declining frames)[27].

[27] For details, see Appendix A.

As for frames, news media present an occurrence into a news story, which then influences the public definition of the occurrence. Especially, as this study expects that the nuanced meaning in presenting the rates brings significant differences for the public to perceive *relative majority* in the climate of opinion, identifying news frames is one of the most important parts of this project. For example, when a presidential approval poll indicates a small margin of change since the previous month, whether the news media present it as a meaningful change or as a non-signifcant change (or unchanged at all), it may have different effect on the public's perception of how the climate of opinion is changing. Many communication studies have increasingly applied the concept of frame to show that the news media highlight certain points of an event while marginalizing the others, defining the event and explaining how it is to be understood (see Gitlin, 1980; Entman, 1991; Iyengar, 1991; Gamson, 1992; Scheufele, 1999). Based on this theoretical conceptualization, this study expects that the way the news media present certain rating numbers likely affect readers' interpretation of those numbers.

In this study, the content analysis identifies how the *NYT* articles present certain rating numbers with one of five presenting frames; inclining/remaining high/unchanged/remaining low/declining. Analysis of how the media have framed certain rating numbers can be systematically constructed by using multiple coders and showing inter-coder reliability. Different coders are asked to identify the

overall meaning of a story as an inclining or a declining frame by focusing on 1) the uses of comparisons between previous rating numbers and current ratings, and 2) the uses of specific words such as "rise," "climb," "go up," "fall," "descend," "collapse" and others in a story[28]. While this study, for the analysis of frames, attempts to address the uses of certain key words, the coding unit is an article: even though the uses of a certain word or a phrase could be critical in deciding the overall tone of a story, this study expects to capture the overall meaning of a story by paying attention to the overall tone of a story itself rather than dissecting a story into multiple parts.

This study used two additional trained coders[29] in the coding process. Both coders are provided the same instruction regarding the defintions of different frames and other protocols of the coding scheme and trained to apply those definitions to the *NYT* news stories before coding them. As described earlier, testing the inter-coder reliability is the most important process in a content analysis (Riffe et al., 1998). In order to test the inter-coder reliablity, coders content-analyzed 45 news stories (about 10% of the entire news stories) which are randomly selected among the total 447 *NYT* news stories. Using Scott's Pi test[30], which is one of the most frequently used in content anlysis stuides (Riffe et al.,

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[28] For the selection of the key words, this study uses a thesaurus dictionary, "Merriam-Webster Online Thesaurus" (http://www.m-w.com/). For details, see Appendix A.

[29] Both are doctoral candidates in the school of journalism in the Univ. of Texas at Austin.

[30] Pi = (OA-EA)/(1-EA), when OA = the percentage of observed agreement, EA = the percentage of expected agreement.

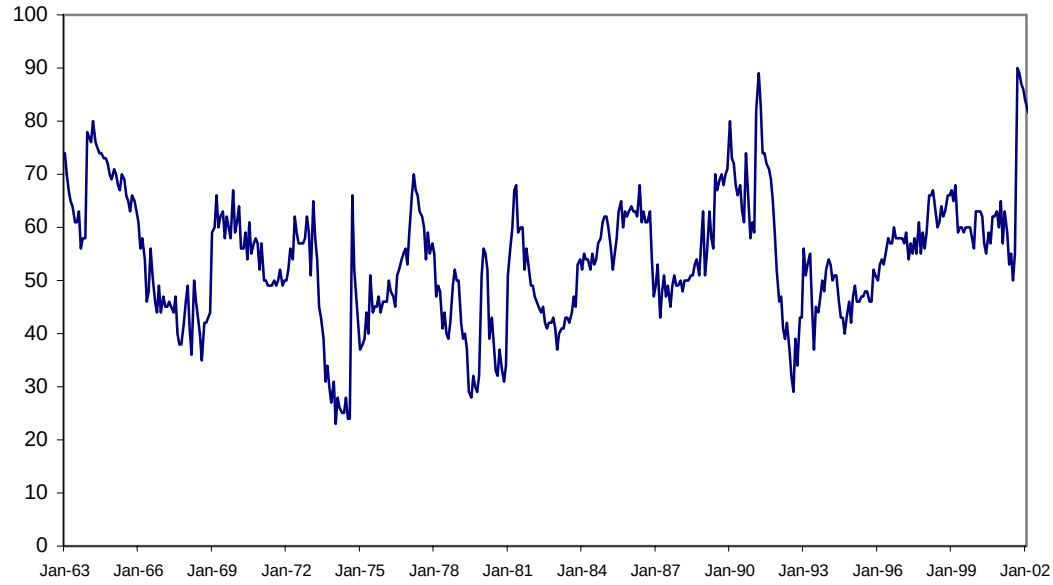
1998), this study confirmed that the inter-coder reliability rests in the acceptable range: the inter-coder reliability between the principal coder and coder A is .84 (20/23, and *EA*= .20) and the reliability between the principal coder and coder B is .82 (18/22 and *EA*=.20).

GALLUP POLLS: THE PRESIDENTIAL APPROVAL RATES, 1963-2002

One of the main variables of this study is the Gallup Poll ratings of presidential popularity, which have been conducted regularly since the 1950s. These time-series data have been used for almost all relevant studies of presidential popularity, particularly because the Gallup Poll has a high level of reliability since it regularly asks the same question: "Do you approve or disapprove of the way _____ is handling his job as president?" While the Gallup organization did not limit the presidential performance question to one use per month and it also occasionally skips a month, most relevant studies of presidential popularity used the month as a unit of analysis. The monthly approval ratings are collected from the *Gallup Monthly*. Following previous studies, when the ratings were collected more than once per month, this study chooses the first ratings observed in a month; and when a month was skipped, the rating of the

month is interpolated by regressing to the best fitting line[31] (see, Gronke & Brehm, 2002).

Figure 2. Approval Rates 1963-2002



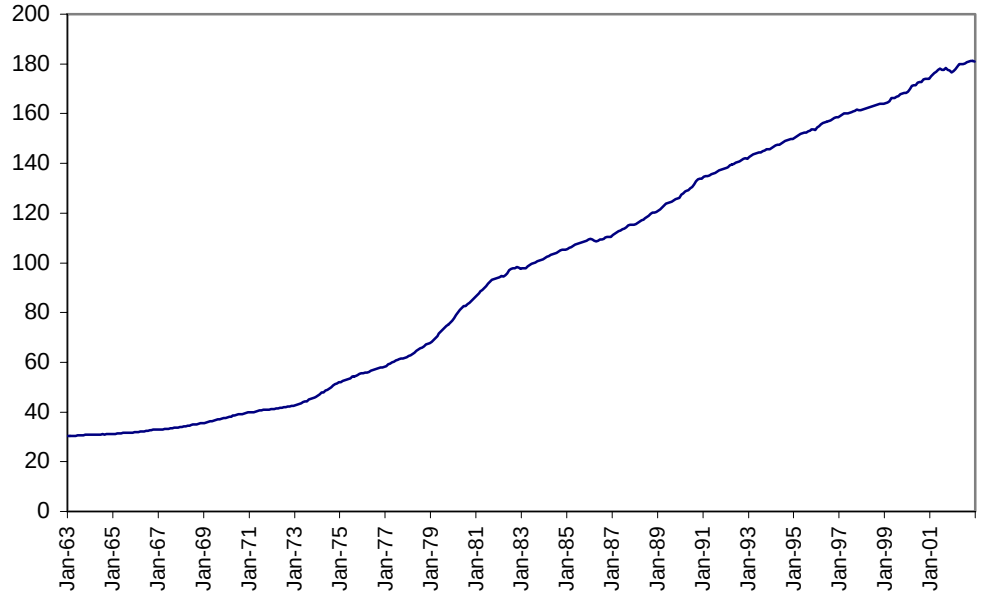
CONTROLLING VARIABLES

In order to observe the effect of the testing variables (*NYT* news stories and Presidential approval rates) on each other, this study needs to control other variables which might have influenced public assessment of presidential popularity and the *NYT*'s decision to report the approval rates. Previous studies on presidential popularity have identified that economic conditions and political

[31] 22 cases are interpolated by regressing to the best fitting line.

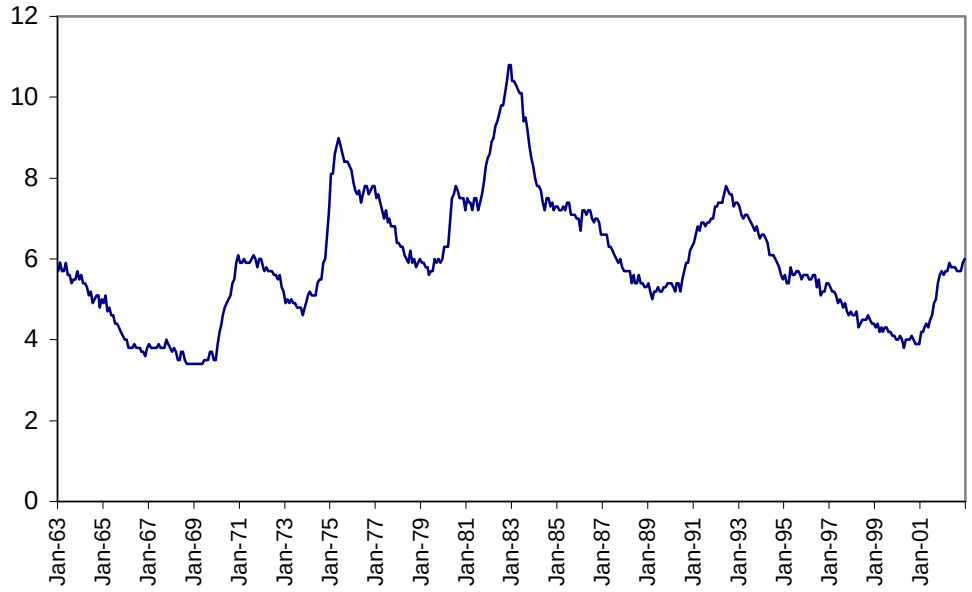
events (such as scandals) along with time (often modeled as duration in incumbency) are the main factors that explain variance in the ratings. For the variables of economic conditions, this study uses monthly unemployment rates and Consumer Price Index (CPI) data[32].

Figure 3. CPI 1963-2002



[32] CPI index, reported by the Labor Department, is widely used for gauging inflation, measuring changes in the prices of consumer goods.

Figure 4. Unemployment Rates 1963-2002



As for political events, the conventional coding scheme has developed incrementally (Gronke & Brehm, 2002). The first approach (Mueller, 1970, 1973) was to consider only "rally" events, which supposedly boost presidential popularity. This approach was made more specific by Kernell (1978), who attempted to identify these "rally" events. Brace and Hinckley's approach (1991) later provided a more comprehensive list of political events by including "negative" events in addition to "positive" events. While previous studies consider only the inclining influence of political events, it is meaningful that Brace and Hinckley's study began to consider the declining impact of political events on presidential popularity too (see Gronke & Brehm, 2002, p. 435).

Following Brace and Hinckley's approach, later studies even specified the events according to diverse characteristics such as 'foreign/domestic, president personal, US initiated/enemy initiated,' while, in general, categorizing the events into "positive" and "negative" (e.g., Brody & Shapiro, 1991; Marra et al., 1990; Gronke & Brehm, 2002). This study uses the list of political events provided by Brace and Hinckley (1991) and later studies, and extends the list to the present time.[33]

[33] The full list of events can be found in Appendix B.

Methodological Considerations

This study proposes a quadratic regression model and a time-series model with some secondary data in order to examine the cyclical formation of public opinion on presidential performance. If the news media reports of polling numbers are simply reporting without any influence on public opinion at all (i.e., being independent from the on-going process of public opinion formation), then the reports would not bring any *systematic* change on subsequent public assessments of presidents. However, as many previous studies imply, this study suspects that news media reports of polling numbers cannot be purely objective (i.e., detached from the shaping of public opinion) in that the reports are one of the key movers of public opinion by showing dominant opinions and minor opinions. Although the objective assumption in the news media reports of opinion polls is far more complex than an empirical model can identify, the proposed quadratic regression model and time-series model, nonetheless, attempt to delineate the reciprocal relation between the news media reports of presidential approval ratings and the cyclical formation of public opinion in the process.

QUADRATIC REGRESSION NOTES: MEASURING THE EFFECT OF CONVERGENCE AND MARGIN OF CHANGE IN PUBLIC OPINION ON THE MEDIA

Before investigating the effect of the *NYT* reports on the subsequent public opinion, this study needs to explore how the convergence and the margin of change in public opinion affect the *NYT* in the first place. As this study expects that the relationship between the convergence and the margin of change of the approval rates and the number of *NYT* news stories reporting the rate dependent variable is more complex than a simple linear form, it is necessary to apply an innovative approach to identify a curvilinear relationship.

This study uses the quadratic regression model for estimating the factors which influence the *NYT* decision to report a presidential approval rate. The quadratic regression model is often used to identify a U-shaped curvilinear relationship with an intermediate optimum (which may be a maximum or a minimum depending upon the relationship). The quadratic model equation is identified by including a squared term of an independent variable:

$Y = \alpha_o + \alpha_1 X + \alpha_2 X^2 + \varepsilon_t$, where α_o = the constant term, α_1 = the coefficient of the linear term, and α_2 = the coefficient of the quadratic term. .

By regressing to both linear term and quadratic term, a quadratic model has an advantage of accounting for a complex pattern between dependent and independent variables. That is, while the overall relation between the variables is surely non-linear, it can provide information on the linear relation as well. This advantage makes the quadratic regression model most useful for this study. Using the quadratic model, this study can identify not only a U-shaped relation but also an overall trend between two independent variables (convergence and margin of difference) and the dependent variable (the number of the *NYT* news stories).

Using the quadratic regression models, this study investigates the effect of two independent variables: the convergence of public opinion and the margin of change in public opinion. First, this expects that in a given month the *NYT* present more reports on presidential rates when the public opinion on presidential approval is convergent either in approval or disapproval than when it is not convergent (i.e. evenly divided). That is to say, a very low presidential approval rate has a high probability of being reported by the news media; on the contrary, presidential approval rates in the intermediate (average) level have a low probability of being reported; and, presidential approval rates in the very high level again have a higher probability of being reported by the news media. Thus, a quadratic relationship between the approval rate and the number of the *NYT* stories is expected to exist, with an intermediate (minimum) optimum approval rate at which the number of the *NYT* stories is minimized. Next, as for the margin

of change, this study also expects that a quadratic relationship between the margin of change and the number of the *NYT* articles exist with an optimum (expectedly, when non-changed at all) level of margin of change at which the number of the *NYT* news stories is minimized.

TIME-SERIES NOTES: MEASURING THE EFFECT OF THE MEDIA ON SUBSEQUENT PUBLIC OPINION

Conventional approaches to presidential approval rates have used aggregate data of monthly presidential support ratings to investigate the fluctuation of the mean level of the ratings within their relationships to other extraneous variables and, most importantly, to time (e.g., Mueller, 1970; Stimson, 1976; Kernell, 1978; Ostrom & Simon, 1985; Brace & Hinckley, 1991: Norpoth, 1996). The biggest benefit of the time-bounded approach is that it allows us to observe and understand the descriptive features of the data in a more accurate way, and we can plot and describe a long range of data in a model. However, as Brody (1991) and Brace and Hinckley (1991) point out[34], *time* itself is a confounding variable in that it is not unimaginable that any systematic effect of unobserved variables (such as the length of incumbency, the age of the president, or the developments of political events) is diluted in the name of *time*. For

[34] Brody (1991) argues that " 'time' is not an explanation because any series monotonic with time (e.g., cumulative casualties, the cost of living index, the length of time the president in office, or even the age of the president) could be a causal factor but undetectable—or indistinguishable from any other factor with time—when "time" is entered into the equation" (p.104).

presidential approval series, the variation is, to a large degree, dominated by a cyclical feature because American politics revolves around quadrennial presidential elections. Considering this cyclical variation, a relatively simple time bounded model can measure the impacts of other independent variables on public assessment of presidents, even among different presidential terms. That is, time-bounded analysis enables researchers to make a *stochastic* model, through which future values of the series can be forecasted with limited input process while controlling unobserved input variables in the name of *time*.[35]

Previous studies have applied two different approaches in considering the effect of *time* on the change of the presidential rating: a *cross-sectional* regression approach and a *time-series* regression approach. First, the cross-sectional regression approach Mueller (1970), Stimson (1976), and Brace and Hinckley (1991) applied, whereby *time* is entered into the equation as a causal factor, risks misidentifying the complex relation between the public evaluation of the presidents and other observable variables representing the effect of *time*, while it has an advantage of identifying the patterned influence of *time*. That is, the theoretical meaning of *time* could be overemphasized while it is hard to integrate a new variable into a given cross-sectional regression model. That is, statistically, the collinearity between *time* and other variables may preclude researchers to count those variables into the equation (i.e., when the impact of an observed

[35] For general discussions of time-series analysis, see Chatfield (1975) & Greene (2000).

variable is systematic but not big enough). Arguably, this explains why previous studies have not explored many other variables beyond political events and economic conditions in their simple regression models.

In this sense, the introduction of a time-series regression analysis in later relevant studies is not a meaningless contribution to the studies of president approval ratings. In a time-series regression approach, *time* itself is no more a causal variable that has theoretical significance; instead, it is replaced by a measure of past popularity (i.e., the rating of the previous month) whereby *time* is considered only for the practical importance of explaining the dynamic of the rating. The underlying logic of the time-series model is not without problems, especially when we consider that past approval rating also does not have any theoretical significance and that it is hard to explain the *cyclical* change of the rating in a theoretical sense in a time-series model. But, the benefit of the time-series model is that it raises the plausibility of the model in explaining the fluctuation of the rating with other controllable variables by dropping out the overly confounding meaning of *time.* Since time *per se* is not usually what a researcher intends to identify in his/her study, an overly determined conclusion like, “it is inevitable to decline over time,” is not what most researchers want to show as their most conclusive result in their studies of the presidential approval ratings (see, Brody, 1991).

MEASURING THE ADDITIVE/SUBTRACTIVE EFFECT: ARMA MODEL

In a simple regression analysis, the regression model needs to meet three assumptions: (a) the error term has a mean of zero, (b) the error term has a constant variance over all the observations, and (c) the error terms corresponding to different points in time are not correlated. And, among these three assumptions, the third assumption is often most important (Ostrom, 1990). When the third assumption is violated, the model often provides an underestimation of the variance and standard deviation and thus results in inaccurate tests of hypotheses. (Ostrom, 1990; Gonzenbach & McGavin, 1997). While the misspecfication of a model by violating the third assumption provides relatively unbiased coefficients, it tends to underestimate the variance and standard deviation and thus results in an overestimation of the statistical significance of the coefficients. The accurate estimation of the coefficients of independent variables is very important, in particular the coefficients that are used in testing the significance of hypotheses, computing *t* ratios. In this sense, given that most time-series methods in the social sciences have first-order auto-regressive tendency (Gonzenbach & McGavin, 1997), it is critical for a time-series analysis to control the auto-correlation in the model in order to conduct accurate tests of hypotheses.

ARMA (auto-regression, moving average) model is one the most common time-series models for analyzing a time-series that does not fit the assumptions of a cross-sectional regression model. ARMA models allow one to analyze the

relations among time-series variables by adding endogenous variables at the mean level to adjust the auto-regressive residual to “white noise” (i.e., randomly fluctuating residuals). Tests of the ARMA model surrounding the relationships between the independent variables as control and the dependent variable reveal that a model with the first-order autoregressive term and the first-order moving average term, i.e., ARMA(1,1), need to be applied for the analysis. A usual ARMA model is:

$$Y_t = \alpha_o + \alpha_1 X_t + \beta_0 Y_{t-1} + \varepsilon_t - \theta\varepsilon_{t-1},$$

where α_o represents an intercept, $\alpha_1 X_t$ represents the influence of the independent variable, $\beta_0 Y_{t-1}$ represents AR(1) term, and $\theta\varepsilon_{t-1}$ represents MA(1) term. The parameter of AR(1), β_0, describes the magnitude of the correlation between the current observation of *Y* and its previous observation. As we expect that the dependent variable is not simply random, the parameter, β_0, must be contained in the interval $-1 < \beta_0 < 1$. The parameter of MA(1), θ, describes mathematical approximation of random disturbance for controlling the auto-correlation and it also must be contained in the boundary of $-1 < \theta < 1$.

MEASURING VOLATILITY: ARCH MODEL

As discussed in previous chapters, volatility in political phenomena raises important issues not only in terms of substantive political aspects but also in terms of methodological aspects in studying a longitudinal data (see Maestas & Preus, 2000). There have been only a few previous attempts to explore the volatility of the series of the presidential approval rates. For example, one of the most notable attempts was Edwards and Gallup (1990) study investigating the standard deviation of the approval ratings for the purpose of discussing volatility. As they applied the method, one of the simplest approaches to explore the volatility is to compare the standard deviations and the degrees of kurtosis across different periods. But, the method of using simply the standard deviations and the degrees of kurtosis has a problem in showing the volatility of the presidential approval series. Since the different political or economic context is causally associated with the series of the approval rates, any test of volatility without considering these contexts makes it difficult to provide any more than a simple trend on the volatility. That is, without considering the effect of contextual variables, such as economic conditions and political events, on presidential approval rates in different periods, the standard deviations of the series of the approval rates cannot tell any more than a simple trend of the volatility. In this sense, another approach to exploring the volatility can be to measure the variances of the residuals in a

regression model in different periods. While this method enables one to count in the influences of contextual variables in measuring volatility, a problem in this approach of using the variances of the residuals is that the method cannot control the problem of auto-correlation among the volatility terms over time.

Recently, these problems have been noticed by a few political scientists, and they introduced an innovative approach to measure volatility in a more accurate way, by applying the ARCH model from econometrics (Maestas & Prehus, 2000; Gronke & Brehm, 2002). Engel (1982) proposes in his seminal work, for a time-series which has a propensity of AR(1), the volatility of the time-series needs to be measured by identifying the error variance (σ^2) conditioned on the time series since the variances of the time-series tend to be auto-correlated over time. He argues that we cannot measure the volatility accurately simply by measuring the variances of the residuals in the conventional time-series model. Since the conventional time-series model operates under an assumption that the rates have the same conditional variance across different time points of observation, this assumption is hardly applicable to some time-series data that have an auto-correlative tendency. That is, conventional time-series analysis presupposes that after considering the mean level of change from extraneous and endogenous variables, the time series exhibits constant variances over a long period of time. However, it is plausible that changes of each variable are serially correlated with each other (i.e., a volatile observation in a variable is occurring

together with other volatile observations especially for a short period of time) so that the volatility may not be constant for a short period of time. For example, in this study we may expect that when an unpredictable political event causes a sharp decline in presidential approval rates, the public becomes more sensitive to subsequent news related to those rates, so that a minor political event following the sharp decline can cause the public evaluation of the president to change more dramatically (see Maestas & Preuhus, 2000).

In that sense, Engle (1982) proposes in his seminal work, for a time-series which has a propensity of auto-regressive tendency, the volatility of the time-series needs to be measured by identifying the error variance conditioned on the time series (ARCH), since the variances of the time-series tend to be auto-correlated over time. Recently, a few scholars in political science (e.g., Maestas & Preuhus, 2000; Gronke & Brehm, 2002) attempted to identify this volatility issue in political time series by using the ARCH (Autoregressive Conditional Heteroskedasticity) model, which was originally developed by economists to explain volatility in markets (e.g., Engle, 1982; Bollerslev, 1986). This model explores short run volatility as an autoregressive process in the variance, while the long run variance is constant. As Maestas and Preuhus (2000) pointed out, while mean models can tell us how much individual events (which are often modeled with dummy variables) affect political processes, it is hard to expect them to tell whether the way individual events influence the system is constant across

different points in time (p. 98). Variance models, on the other hand, have the advantage of capturing contextual changes that kindle political volatility by looking at the heteroskedastic disturbance of data as a dynamic of theoretical relevant variables and the autoregressive process.

Before investigating the reason for the incline in volatility, this study needs to confirm the fact that volatility has not been constant across different points of observation. The ARCH model provides a way to analyze time-series data with varying conditional heteroskedasticity across different points of observation (i.e., increasing/decreasing volatility across time). However, before introducing the ARCH model, this study needs to ask whether the volatility significantly changes from one point of observation to other points and whether the change has a linear trend of inclining over time. The Lagrange Multiplier test (LM), which examines the squared residuals on a lag of squared residuals of a mean model, is used to determine autoregressive conditional heteroskedasticity. If the score of LM ($LM = TR^2$, T = the number of observation) is big enough (on χ^2 distribution), and the autoregressive coefficient of ARCH has a positive value, the hypothesis that a series has an ARCH error is confirmed (see Engle, 1982; Maestas & Preuhs, 2000).

Particularly given that the change in the short run variance, volatility, is one of the most important observations of this study, the variance model should not be overlooked in this study. Moreover, the methodological goal of this study

is to compare a time series model based on the mean of data with a time series model with the mean *and variance* of data. This study argues that the latter model, more specifically a mean model with ARCH error—

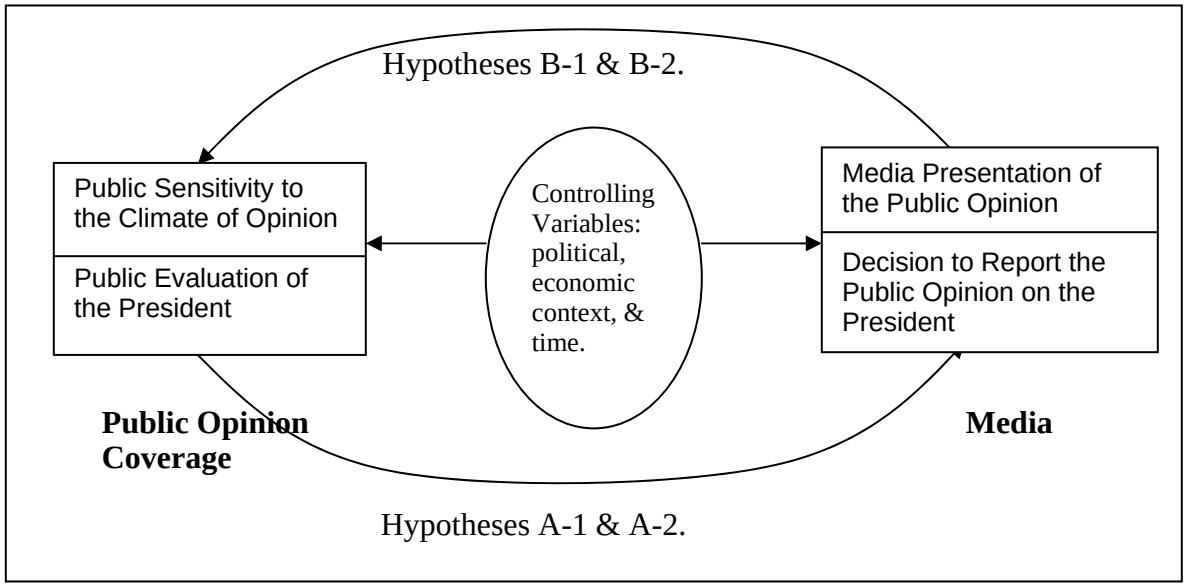
$Y_t = \beta_0 + \beta_1 X_t + \rho Y_{t-1} + (v_t h_t^{1/2})$, will provide useful insights to explore the dynamics of volatility associated with the publicized polls as well as to improve the mean model.

Chapter 5. Results

The previous chapters explored the relationship between the news media and public opinion and argued hypothetically in Chapter 3 that the relationship between the news media and public opinion is not one-way static—that is, the news media do not simply reflect contemporaneous public opinion—rather the relationship is two-way dynamic, thereby the news media are not only influenced by public opinion but also influences future public opinion by selecting, emphasizing, or marginalizing the certain attributes of contemporaneous public opinion. Chapter 2 explored this reciprocal nature between the news media and public opinion with previous studies on public opinion and argued, following Noelle-Neumann's *spiral of silence*, that the reciprocal relation between the news media and public opinion will follow a cyclical process whereby the presence of major opinion causes the news media to represent it and the presentation by the news media, in turn, moves public opinion toward a polarization in that the majority opinion becomes even larger and the minority opinion becomes even smaller in the overall distribution of public opinion.

Based on the discussions and research schemes in the previous chapters, this chapter details the processes and results of testing these hypotheses. Before presenting the results of hypotheses tests, a descriptive result of the content analysis is reported in this chapter.

Figure 5. Conceptualization of the Tests of Hypotheses



Aiming to explore empirically this cyclical formation of public opinion and the reciprocal relation between the news media and public opinion, this study, in Chapter 3, specified this cyclical formation of public opinion with the case of presidential approval rates and the *NYT*'s report of the rates. More specifically, Chapter 3 brought four hypotheses to test the reciprocal relationship between the *NYT* reports and a series of public opinion on presidential approval: two hypotheses testing the influence of public opinion on the *NYT* reports and two hypotheses testing the influence of the *NYT* reports on public opinion.

> H A-1. The lower/higher than intermediate level a presidential approval rate is, the more the *NYT* is likely to report the approval rate.

H A-2. The more a presidential approval rate changes since its previous month, the more the *NYT* is likely to report the approval rate.

H B-1. When other things are controlled, the publication of presidential approval rates by the *NYT* has an additive/subtractive effect on the subsequent approval rates.

H B-2. The increasingly frequent publication of presidential approval rates by the *NYT* has caused the public opinion on presidential to become more volatile.

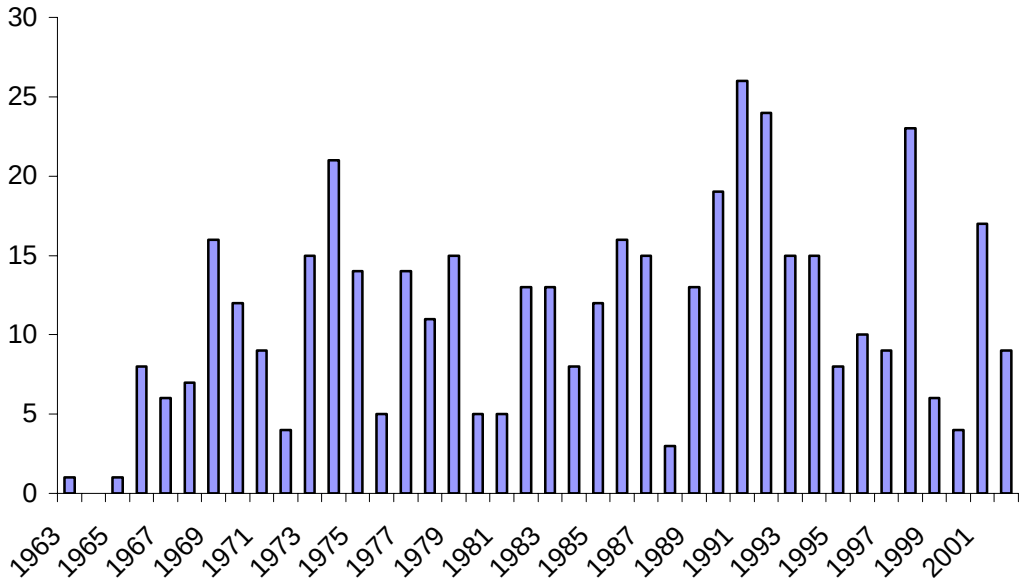
Since the purpose of this study is to explore the causal relationship between the *NYT* and a series of presidential approval rates in two-ways, the analysis of the relationship is conducted by using two statistical methods. First, in order to test the two hypotheses of investigating the influence of presidential approval rates on the *NYT*'s decision to report the approval rates, this study applies the quadratic regression model by using SPSS 11.0. Next, the influence of the *NYT* reports on the subsequent approval rates is investigated by applying time-series models by using EVIEWS 3.1. For both statistical methods, the results of the content analysis of the *NYT* are transformed to a series of monthly data.

Descriptive Results of Content Analysis

Prior to testing hypotheses, this study briefly profiles the overall features of the *NYT* coverage of presidential approval rates from 1963 to 2002 by using the content analysis. Based on the findings of the content analysis, deeper analysis of

the relationship between the media coverage and public opinion will be addressed later in this chapter.

Figure 6. The Number of the NYT Stories, 1963-2002

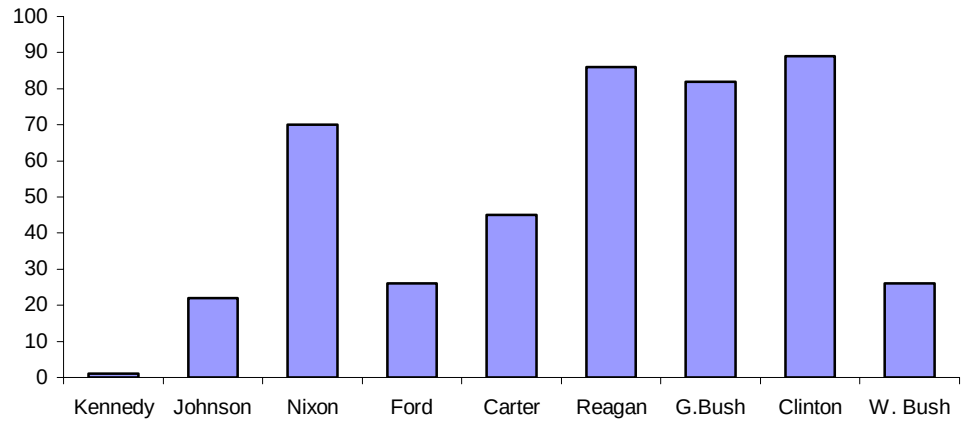


The total number of articles in the *New York Times* is 447, based on the sampling scheme. Looking into the distribution over the years, there is an overall tendency that the number of the NYT stories reporting presidential approval rates has increased over the last forty years. As shown in Figure 6, the number was relatively high during the mid 70s, but decreased later in the 70s and peaked again during the early 90s. In general, the number varies significantly from year to year. That is, while the average number of stories is 11.2, the number has not been

consistent throughout the range of observation varying from none in 1964 to 26 stories in 1991.

The distribution over presidents' terms confirms that the number of the NYT stories has increased, showing that the number was relatively low in Johnson's and Ford's administrative era compared to the number of news stories in other presidential periods in the 1980s and later. Given that the former President George Bush had only one administrative period, the result indicates that his approval rates were the most frequently covered by the *NYT* (82 news stories in 4 years). Figure 7 shows also that Reagan and Clinton's approval rates drew almost equal numbers of the *NYT* news stories; 86 for Reagan and 89 for Clinton.

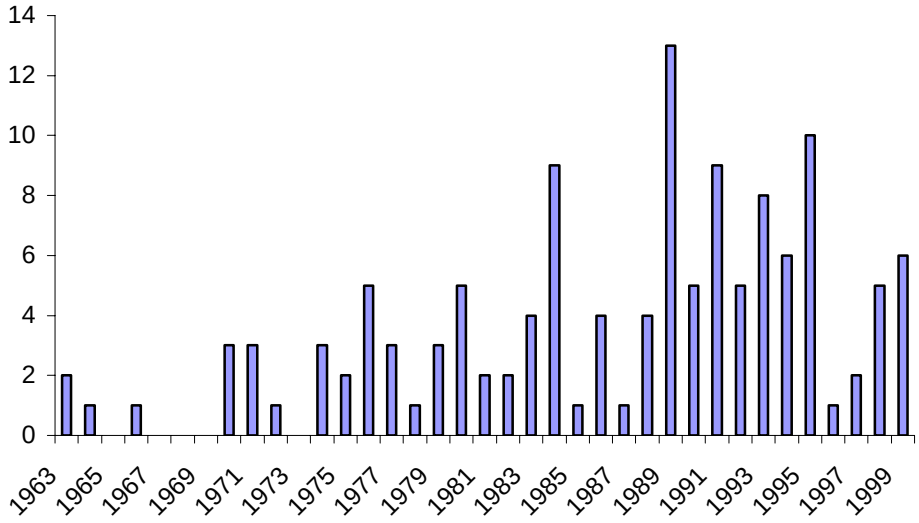
Figure 7. The Number of Stories by Presidents*



* Note: the analysis period includes only the last year of Kennedy administration era.

Among the 447 stories, 130 news stories were reported on the front page of the *NYT* (29.1%). As the number of the *NYT* stories has increased over the last forty years, the number of the front-page stories has also increased proportionally. As shown in Figure 8, relatively large numbers of stories were presented on the front page during the late 80s and the early 90s.

Figure 8. The Number of the Front-Page Stories, 1963-2002



Looking at the frames that the *NYT* stories have applied in their coverage of the presidential approval rates, the result shows that the "declining" frame comprises the vast majority among all stories. More than three out of ten (34.2%) stories presented the current approval rate as declining since the previous poll, closely followed by the "inclining" frame (28.4%). By contrast, other frames such

as “remaining high,” “unchanged,” and “remaining low” occupied a relatively small portion of the whole frame distribution.

Table 1. Frames of the NYT Stories

Frames	*Frequency*	*Percent*
Inclining	127	28.4
Remaining High	71	15.9
Unchanged	54	12.1
Remaining Low	42	9.4
Declining	153	34.2
Total	447	100.0

Table 2 shows how those frames have been distributed across different presidents. According to ANOVA test, the frames that the *NYT* have applied are not equally distributed across different presidents ($F=5.569$, $P<.01$). Most noticeably, the presidential approval rates of the former presidents Johnson and Carter were mostly presented as “declining,” while those of Reagan and Clinton were, to a large extent, framed as “inclining.” For the former President Nixon, it is interesting to note that almost equal numbers of “inclining” and “declining” frames were applied to the *NYT* reports, considering that his role in the Vietnam War and Watergate was mostly covered in a critical way by the news media.

Table 2. Crosstab of Frames by Presidents

Frames	*Kennedy*	*Johnson*	*Nixon*	*Ford*	*Carter*	*Reagan*	*G. Bush*	*Clinton*	*W. Bush*
Inclining		6	21	6	8	37	15	30	4
Remaining High		1	3		3	6	18	30	10
Unchanged			10		11	18	5	8	2
Remaining Low		2	11	3	3	6	10	7	
Declining	1	13	25	17	20	19	34	14	10

Among the 447 stories, only 250 stories presented the possible reasons of change in the presidential approval rate. Table 3 reveals how the *NYT* stories attributed the changes to certain reasons. Among the attributions, "economic condition/economic policy" has been applied by the *NYT* more than any other explanation (26.8%). Next, "diplomatic performance" (14.3%) and "international conflict involving US" were given the second and third priority among those attributions. This result indicates that economy and international relationship are presented as the two most important categories of explaining the change in the presidential approval rates in the *NYT* coverage.

Table 3. Attribution of Change in Presidential Approval Rates

Attributions	*Frequency*	*Percent*
International conflicts involving US	32	11.4
Diplomatic policy/ Summit meeting/ Trip to foreign countries	40	14.3
Personal image/ leadership/ political scandal	17	6.1
President's health	3	1.1
Domestic Issues (budget, crime, tax, environment, social security)	33	11.8
Economic condition/ Economic policy	75	26.8
Political procedures (midterm election/ national convention/ honeymoon)	8	2.8
Watergate	12	4.3
Sept. 11	7	2.5
Energy Crisis (Oil price)	7	2.5
Vietnam War	18	6.4
Presidential Speech	8	2.8
Others	20	7.2
Total	280	100.0

In sum, the results of the content analysis show that the *NYT* has not been consistent its coverage of presidential approval rates during the last forty years; rather it has varied significantly in terms of frequencies and tones. On the basis of these findings, the following section will reveal how these variances of the *NYT* coverage are causally associated with the presidential approval rates themselves as well as other variables.

Analysis of the Effects of the Approval Rates on The *NYT*

Since this study expects that the relationship between the approval rates and the dependent variable is more complex than a simple linear form, it is hard to find a curvilinear relationship with a simple multiple regression model. Instead, the quadratic regression model is used to estimate the factors that influence the *NYT*'s decision to report a presidential approval rate. As discussed earlier, the quadratic regression model is often used to identify a U-shaped curvilinear relationship with an intermediate optimum (which may be a maximum or a minimum depending upon the relationship). In this case, this study expects that very low presidential approval rates have a high probability of being reported by the news media; on the contrary, presidential approval rates in the intermediate (average) level have a low probability of being reported; and, presidential

approval rates in the very high level again have a higher probability of being reported by the news media. Thus, a quadratic relationship between the approval rate and the number of the *NYT* stories is expected to exist, with an intermediate (minimum) optimum approval rate at which the number of the *NYT* stories is minimized. The quadratic model equation is identified by including a squared term of an independent variable:

$$Y = \alpha_o + \alpha_1 X + \alpha_2 X^2 + \varepsilon_t$$

where α_o = constant, α_1 = linear coefficient, and α_2 = quadratic coefficient.

The dependent variable, "NUMOF*NYT*" is the number of the *NYT* stories reporting presidential approval rates in a given month. For example, if the *NYT* presented a news story reporting presidential approval rates five times in a given month, NUMOF*NYT* in the month is coded to 5. Table 4 describes the main variables used in the quadratic regression. The two main independent variables, APPROVAL and APPCHANGE, are measured by using the monthly data of the Gallup poll.

Table 4, in addition to the independent testing variables (APPROVAL and APPCHANGE) and the dependent variable (NUMOF*NYT*), includes six additional variables which are believed to influence the decision of reporting an

approval rate (POSTIVE, NEGATIVE, CPI, UNEMPLOY, INCUMBENCY, and SECOND). Since testing the main independent variables (APPROVAL and APPCHANGE) without consideration of these control variables may result in an overestimation of the effect of the testing variables on the dependent variable, it is important to include these variables before including the testing variables.

Table 4. Description of Variables

Variables	*Variables Description*	*N*	*Mean*	**S.D**
NUMOF*NYT*	The number of the *NYT* stories reporting a presidential approval rate in a given month.	480	.93	1.13
APPROVAL	The presidential approval rate in the month.	480	54.24	11.89
APPCHANGE	The margin of the change of a presidential approval rate since previous month.	480	-.025	5.21
POSITIVE	Whether an important political event, which is expected to move up a presidential approval rate, occurs in the month. YES=1, NO=0	480	.09	.28
NEGATIVE	Whether an important political event, which is expected to move down a presidential approval rate, occurs in the month. YES=1, NO=0	480	.15	.35
CPI	The changed Consumer Price Index since the first month of incumbency	480	10.52	9.07
UNEMPLOY	The changed unemployment percentages since the first month of incumbency	480	-.22	1.69
INCUMBENCY	Years a President in incumbency. Min= 1, Max= 4.	480	2.46	1.15
SECOND	Whether a President in second term. YES=1, NO=0	480	.24	.43

While innumerable considerations may also influence reporting decisions, this study included those six variables, which are most commonly believed to

influence reporting decision. As previous studies indicate, the occurrence of important political events, either positive events such as international crises or negative events such as administrative scandals, brought rapid changes in public atmosphere including a quick shift of public opinion on presidential job performance (Mueller, 1973, Kernell, 1978).[36] As the news media tend to use presidential approval rates as a "news peg" in presidential activity on substantive issues (Groeling and Kernell, 1998, p. 1072), it is reasonable to expect that the occurrence of an international crisis or other important event may enhance the chances of reporting the rates. Another important consideration is the influence of economic conditions on public atmosphere surrounding presidential approval rates. As discussed in a previous chapter, a good number of studies have confirmed that public perception of economic conditions is clearly related to the public assessment of president job handling (e.g., Hibbs, 1979; Stimson, 1976). If that economic situation is served as an important cue for public evaluations of the president's performance is true, it is not unimaginable to expect that it may point the news media to report the presidential approval rate under certain conditions, too. In this model, economic condition is operationalized to CPI (inflation) and unemployment rates. Next, this model includes the years of presidential incumbency and the first/second term of presidency, believing that the duration of a president in office is an important factor in making the news media pay attention

[36] For an empirical study of measuring rally events on reporting decisions, see Groeling &

to the presidential rate. Given that the rating number is often used to forecast the winner of the next presidential election (Crespi, 1980a), the years of incumbency and the first/second term of presidency may be important indicators of reporting the presidential rates.

As Table 4 indicates, the monthly data of the last 40 years provided a good number of the sample size (n=480). Simple descriptive analysis shows several findings. First, the mean score (.93) of NUMOF*NYT* shows that the *NYT* presented almost one story reporting presidential approval rates in a month. The finding confirms that presidential approval rates are one of the most common topics for the news media to use frequently in order to indicate public atmosphere on the contemporary political situation. Also, Table 4 shows that as for the important political events that are expected to move presidential approval rates, negative events have been more frequent than positive events in the last 40 years. As only three Presidents completed their second term of presidency in the last 40 years, Table 4 shows that the mean number of SECOND is relatively small (.24).

APPROVAL RATES AND THE *NYT* STORIES

The results from Table 5 indicate that the variance in the number of the *NYT* reports is significantly associated with each independent variable. Before investigating the main independent variables, the result from model 1 shows that

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Kernell (1998).

all individual variables this study assumed to be associated with the number of the *NYT* stories reporting presidential approval rates are statistically significant indicators, as expected.

Table 5. Quadratic Regression Model 1& 2

Dependent Variable= NUMOFNYT				
	Model 1		**Model 2**	
Variables	Beta	T-test	Beta	T-test
Constant	1.091	8.569***	3.467	4.671***
POSITIVE	.639	3.667***	.672	3.865***
NEGATIVE	.545	3.828***	.527	3.730***
CPI	.030	2.956***	.030	3.053***
UNEMPLOY	.092	2.859***	.058	1.734*
INOFFICE	-.202	-3.604***	-.237	-4.110***
SECOND	-.345	-1.695*	-.401	-1.986**
APPROVAL			**-.076**	**-2.872*** **
APPROVAL^2			**.0006**	**2.499****
F-test	8.846***		8.312***	
R^2	.101		.124	
Adjusted R^2	.089		.109	

Note. N=480, * p≤ .10, ** p≤.05, *** p≤.01

As a political event occurs, the *NYT* is more likely to report presidential approval rates in that month. The coefficients on the POSITIVE and the NEGATIVE variables have a t-test statistic equal to 3.67 and 3.83 respectively, which are significant at the .001 level (99.9% confidence level). Also the result from Model 1 indicates that the number of the *NYT* stories are strongly associated

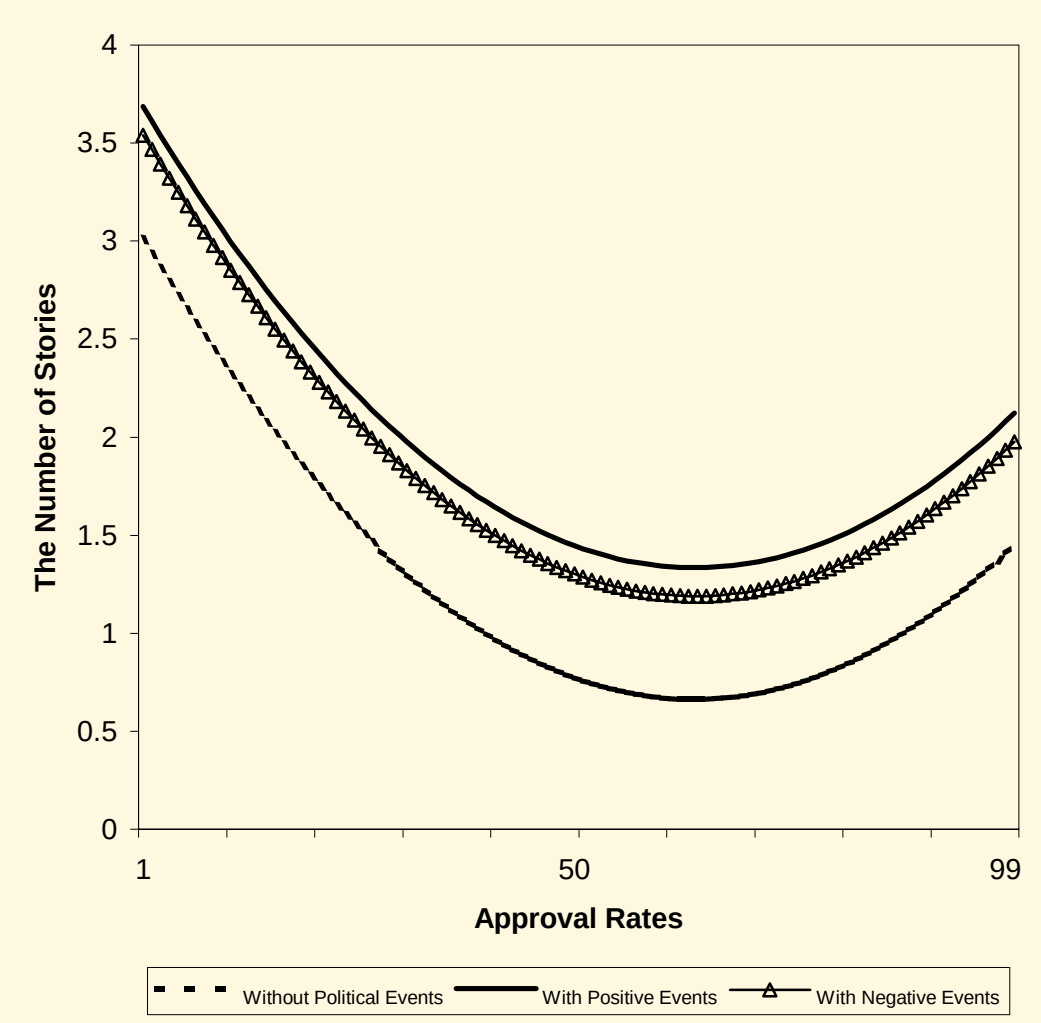
with economic variables. The model, in general, shows that when economic conditions are bad (i.e., inflation rate and unemployment rate are high), the *NYT* is more likely to report a presidential approval rate. Next, the model also shows that the duration of the president in office is negative associated with the number of the *NYT* reports. As expected, the *NYT* is less likely to pay attention to the approval rate as the incumbent period is getting longer and the incumbency moves into the second term. The coefficient of the INOFFICE variable is -.202 (p=.000), which means that as the incumbency increases one year, the *NYT* story, predictably, will present .2 fewer stories in a month. The coefficient on the SECOND variable has a t-test statistic equal to –1.67, which is marginally significant (p= .091), and means that, compared to the first term, we may expect -.34 less stories reporting presidential rates in a month when a president in his second term. The overall model is significant at the .001 level according to the F-test statistic. The adjusted R^2 is .089.

The result from model 2 shows strong evidence to support the first hypothesis; that is the results support the hypothetical argument that the convergence in public opinion raises the number of the media coverage of the public opinion through the case of presidential approval rates and the *NYT* reports. While the result shows that the control variables still have significant effects on the number of stories in the second model, it confirms that, as the linear term and the quadratic term are added to the first model, when other things are controlled,

the lower/higher than average a presidential approval rate is, the more the *NYT* is likely to report the approval rate. More specifically, the result from Model 2 indicates that when other things are equal, there exists a curvilinear tendency in the relation between the presidential approval number and the number of the *NYT* stories. The coefficient on the APPROVAL variable is –.80, which is significant at .05 level (t= –2.87). That is, the overall tendency is that the higher the approval rate is, the less the *NYT* is likely to report the rate. But, this overall linear tendency is adjusted to a curvilinear relation, as the coefficient on the squared term of the APPROVAL has a t-test statistic equal to 2.50 which is significant at the .05 level.

In Figure 9, this study plots the overall relationship between the number of news reports and the presidential approval rates. The relation plotted in Figure 9 points strongly to the fact that there exists a quadratic relationship between the approval rate and the number of the *NYT* stories with an optimum (minimum) approval rate at which the number of the *NYT* stories is minimized.

Figure 9.Relationship between the Number of the *NYT* Stories and Approval Rates



* Note: All variables except APPROVAL, APPROVAL^2, POSITIVE, and NEGATIVE have been held at their mean values. Addition of POSITIVE or NEGATIVE presents an intercept change when a political event, which is expected to influence positively or negatively, occurs.

Figure 9 shows that the number of the *NYT* stories is minimized when the approval rate stays at about 60, and the number of stories increases as the approval rate moves further from the optimum level. Turning back to the result

from Table 2, this study investigates the influence of political events on the number of stories for controlling variables. The result shows that while both positive events and negative events show statistical significance of raising the intercept of the curvilinear relationship, the coefficient of NEGATIVE (.527) is smaller than that of POSITIVE (.672). As shown in Figure 9, when a positive event occurs, we may expect more *NYT* reports on presidential approval rates across different levels of approval rates than otherwise. Among control variables in Model 2, the coefficient on the UNEMPLOY variable has a t-test statistic equal to 1.73, which is marginally significant at the .1 level (90% confidence level). The F-test statistic shows that the overall Model 2 is significant at the .001 level. And the adjusted R^2 of Model 2, compared to the first model, is improved from .089 to.109.

Table 6. Quadratic Regression Model 3

Dependent Variable= NUMOFNYT		
	Model 3	
Variables	Beta	T-test
Constant	3.234	4.302***
POSITIVE	.698	3.990***
NEGATIVE	.452	3.121***
CPI	.030	3.054***
UNEMPLOY	.059	1.778*
INOFFICE	-.225	-3.891***
SECOND	-.379	-1.879*
APPROVAL	-.071	-2.638**
$APPROVAL^2$	.0006	2.308**
APPCHANGE	**-.025**	**-2.083****
$APPCHANGE^2$	**.001**	**1.695***
F-test	7.163***	
R^2	.133	
Adjusted R^2	.114	

Note. N=480 * p≤ .10, ** p≤.05, *** p≤.01

In order to test the second hypotheses, the new variable, APPCHANGE, is added to the previous model. The result from Table 6 shows an overall support to the second hypothesis; that is, the result supports the hypothetical argument that the margin of change in public opinion is positively related to the increase of the

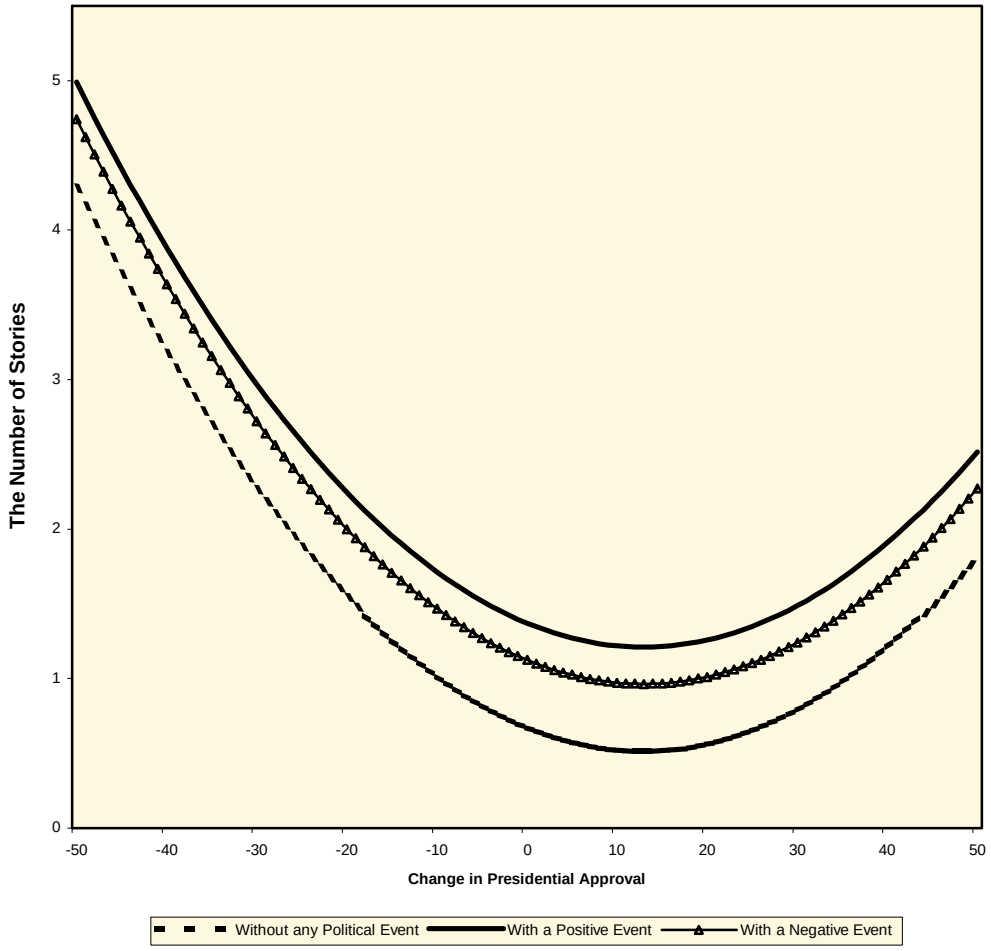
media coverage of the public opinion through the case of presidential approval rates and the NYT coverage.

As shown in the previous model, the result of Model 3 confirms that when other things are controlled, the more a presidential approval rate changes from the previous month, the more the *NYT* presents stories reporting presidential approval rates. More specifically, the result indicates that when other things are equal, there exists a curvilinear tendency in the relation between the changes in presidential approval and the number of the *NYT* stories. The coefficient on the APPCHANGE variable is –.025, which is significant at .05 level (t= –2.08). That is, the overall tendency is that the more the approval rate drops from its previous month, the more the *NYT* is likely to report the rate. But, this overall linear tendency is adjusted to a curvilinear relation, as the coefficient on the squared term of the APPCHANGE has a t-test statistic equal to 1.675, which is marginally significant at .1 level.

Figure 10 plots the overall relationship between the number of news reports and the changes in presidential approval rates. As shown in Figure 2, the relation plotted in Figure 10 points to the fact that there exist a quadratic relationship between the changes in approval rate and the number of the *NYT* stories with an optimum (minimum) approval rate at which the number of the *NYT* stories is minimized. Interestingly, Figure 10 shows that the number of the *NYT* stories is minimized when the change in approval rate is about 10, that is, the

curve is not symmetrical with the lowest point at zero. Instead, the curve is asymmetrical across the declining changes and inclining changes in presidential approval. With this result, we may conclude that while the change in presidential approval ratings is a significant indicator of the number of stories, the strength of the changes on the *NYT* is bigger when the approval rate is declining from its previous month than when it is inclining. The result of Table 3 shows that while the control variables are still statistically significant, the coefficients on the UNEMPLOY variable and the SECOND variable are only marginally significant ($p \leq .10$) in Model 3. The F-test statistic shows that the overall Model 3 is significant at the .001 level. And the adjusted R^2 of Model 3, compared to the second model, is improved from 109 to .114.

Figure 10. Relationship between the Number of the *NYT* Stories and Changes in Presidential Approval



Note: All variables except APPCHANGE, APPCHANGE^2, POSITIVE, and NEGATIVE have been held at their mean values. Addition of POSITIVE or NEGATIVE presents an intercept change when a political event, which is expected to influence positively or negatively, occurs.

In sum, the quadratic regression models show strong evidence of supporting the hypotheses. The consistently significant control variables in these models demonstrate that political events, economic condition, and the time spent

in office are validly included as controls in the analysis. After controlling these variables, the significance of testing variables (approval rates and approval changes) tells that the convergence and the change in public evaluation of the presidential performance have significant influence on the media sensitivity to the climate of public opinion. That is, given that the degree to which the news media, in this case the *NYT*, are paying attention to a specific public opinion is not constant but varies across different contexts, this study confirms two points: first, the attention that the news media are paying to public opinion on presidential approval increases significantly when the public opinion on presidential approval indicates the convergence in the opinion (indicating the majority evidently), compared to when public opinion is evenly divided; and second, the attention that the news media are paying to the public opinion on presidential approval increases significantly when public opinion indicates a rapid change (indicating the *relative majority* of that time), compared to when the public opinion stays constant.

Analysis of the Effect of the *NYT* Stories on the Approval Rates

TEST OF THE ARMA MODEL

The equation model for a time-series record is different from a cross-sectional model in that it cannot simply identify a value in the time-series as a combination of individual variables. Since each observation in the time-series is conditional on previous observations, using a simple cross-sectional model, which does not reflect this, it may result in a missspecified conclusion which overestimates the relation between individual variables and the time-series (Ostrom, 1990, Rhee, 1996, Gronke & Brehm, 2002). In the case of this study, identifying an approval rate as a simple product of exogenous variables, such as political events or economic condition, may result in a spurious association between the approval rate and the exogenous variables. Statistically, the misspecification of the association between variables without consideration of endogenous variables may violate the basic assumptions of the OLS (ordinary least-squares) regression: that is, the assumptions of homoskedacity (the error term is constant over all observations) and no autocorrelation (the error term is not correlated with its previous terms)[37].

[37] For more detailed discussion on consequences of violating the assumptions, see Ostrom (1990), pp. 21-26.

Before testing the main variables, this study begins with a simple time-series regression model and investigates whether it meets the basic assumptions in order to establish a basis for the appropriate model for estimating the association between testing variables and the presidential approval rates. The baseline model includes following principal independent variables as control:

Table 7. Description of the Independent Variables in the Baseline Model

Variables	***Description***
POSITIVE	Whether an important political event, which is expected to move up a presidential approval rate, occurs in the month. YES=1, NO=0
NEGATIVE	Whether an important political event, which is expected to move down a presidential approval rate, occurs in the month. YES=1, NO=0
CPI	The changed Consumer Price Index since the fist month of incumbency
UNEMPLOY	The changed unemployment percentages since the first month of incumbency
INAUGURATION	A dummy for an inauguration of a new president in the month YES=1, NO=0
SECOND	Whether a President in second term. YES=1, NO=0
WATERGATE	A dummy for the one year before the resignation of Nixon
9/11	A dummy for the one year from the terrorist attack

Among the variables, the variables of representing the influence of political events (POSITIVE, NEGATIVE) are lagged from zero to four months and the variables of representing the influence of economic condition (CPI, UNEMPLOY) are lagged to one month in order to account for the delay before such information would be incorporated into the approval rate. In addition to these variables, two

dummy variables for the Watergate and the Sept. 11 are added to control the extraordinary occasions in the approval series.

Table 8. Approval Rate as a Function of Control Variables (baseline model)

Dependent Variable= APPROVAL		
	Baseline Model	
Variables	Beta	T-test
Constant	56.336	71.949***
POSITIVE $_{t}$	2.564	1.656*
$_{t-1}$	4.290	2.757***
$_{t-2}$	2.961	1.904*
$_{t-3}$	3.266	2.096**
$_{t-4}$	2.265	1.448
NEGATIVE $_{t}$	-2.019	-1.576
$_{t-1}$	-1.297	-1.009
$_{t-2}$	-2.181	-1.702*
$_{t-3}$	-1.791	-1.381
$_{t-4}$	-1.997	-1.544
CPI_{t-1}	-0.480	-6.882***
$UNEMPLOY_{t-1}$	-0.498	-1.694*
INAUGURATION	9.399	2.751***
SECOND	10.984	6.800***
WATERGATE	-28.631	-8.742***
9/11	25.008	8.842***
F-test	18.310***	
R^2	.389	
Adjusted R^2	.368	

Note. N=475, * p≤ .10, ** p≤.05, *** p≤.01

The result from Table 8 indicates that, as expected, almost all independent variables that this study includes as control are significantly associated with the

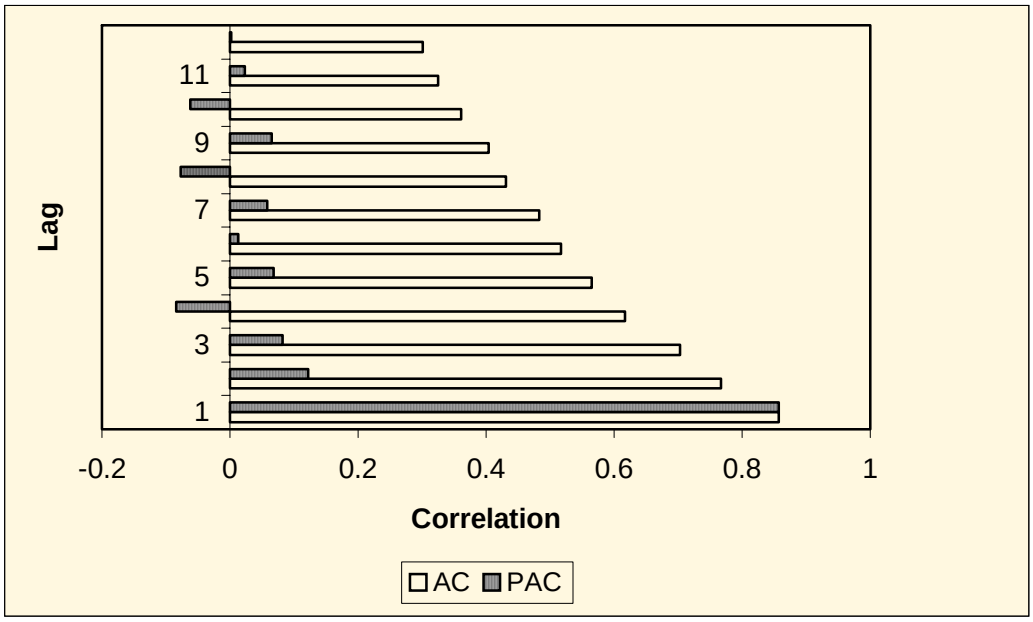
presidential approval rate. More specifically, the increases of two economic indexes are negatively associated with the approval rate (-.480 for CPI and –.498 for UNEMPLOY). Also, the result shows that the occurrence of positive political events is a significant indicator of the approval rates of the following months. The coefficient of the $POSITIVE_t$ variable is 2.564 and the coefficient of the POSITIVE reaches to the peak one month after it happened. Meanwhile, Table 8 shows that the effect of the occurrence of negative political event is only marginally significant. The coefficient of the $NEGATIVE_t$ is –2.019, which is marginal at .01 level, and the impact of the negative events reaches to the peak two months later.

Next, the coefficients of both INAUGURATION and SECOND are also significant at .01 level respectively. The adjusted R^2 of the baseline model is .389, and the F-test shows that the overall model is significant at .01 level. While the analysis of the baseline model shows interesting results, it is possible that the model is misspecified by missing endogenous variables in the model so that the model results in the spurious relations between those independent variables and the approval rate. That is, while the model could be useful to show the overall tendency between the independent variables and the approval rate, it should be noted that the misspecification could result in a wrong conclusion in testing hypotheses which demand a more accurate estimation of the association between variables.

Table 9. Autocorrelation and Partial Correlation of the Residual (baseline model)

Lag	*AC*	*PAC*	*Q-Stat*	*Prob*
1	0.857	0.857	351.86	0.000
2	0.767	0.122	634.31	0.000
3	0.703	0.082	872.27	0.000
4	0.617	-0.084	1055.8	0.000
5	0.565	0.068	1209.9	0.000
6	0.517	0.013	1339.4	0.000
7	0.483	0.058	1452.6	0.000
8	0.431	-0.077	1542.9	0.000
9	0.404	0.065	1622.2	0.000
10	0.361	-0.062	1685.9	0.000
11	0.325	0.023	1737.7	0.000
12	0.301	0.002	1782.2	0.000

Figure 11. Correlogram of Autocorrelations and Partial Correlations of the Residual (baseline model)



As expected, the autocorrelation analysis of the residuals of the baseline model shows that each observation of the residual strongly correlates with previous observations of the residual. Table 9 and Figure 11 show that while the autocorrelations are exponentially decreasing, the partial correlation is significantly cut-off after the first lag. That is, the results from Table 9 and Figure 11 indicates that the model has a typical propensity of auto-regression at its first lag, i.e., AR(1). In order to control for contaminating effects of autoregressive tendency within these times series, this study applies the ARMA (auto-regression, moving average) modeling technique. ARMA is one of the most common approaches for the analysis of the association among stationary[38] time-series with heteroskedacitic residuals. ARMA models allow one to analyze the relations among time-series variables by adding endogenous variables at the mean level to adjust the residual to "white noise" (i.e., randomly fluctuating residuals).

Tests of the ARMA model surrounding the relationships between the independent variables as control and the dependent variable reveal that a model with the first-order autoregressive term and the first-order moving average term, i.e., ARMA(1,1), needs to be applied for the analysis[39]. The specified ARMA model is:

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[38] The ADF (augmented Dickey-Fuller) test shows that the APPROVAL variable is not randomly moving (t=-4.15). That is, the time-series is stationary (i.e., tending to return to the mean in the long run).

[39] In many cases, both AR(1) and ARMA(1,1) can be used for statistical analysis. While AIC (Akaike Information Criterion) or SC (Schwatz Criterion) scores are often used to identify the best

$$Y_t = \alpha_o + \lambda_k + \alpha_j X^{j}_{t-i} + \beta_0 Y_{t-1} + \varepsilon_t - \theta\varepsilon_{t-1}, \text{ (i=0,1,…,4),}$$

where λ_k represents an intercept change by SECOND, and INAUGURATION, X^{j} represents other independent variables, $\beta_0 Y_{t-1}$ represents AR(1) term, and $\theta\varepsilon_{t-1}$ represents MA(1) term.

Table 10 shows that there are noticeable changes between the ARMA (1,1) model and the baseline OLS model, while confirming that the independent variables are significantly associated with the approval rate in the ARMA (1,1) model, too. The results from Table 10 provide that the coefficient size of each variable is noticeably smaller than that of the OLS model, while showing that the ARMA model indicates the same overall tendencies between the variables as the baseline model shows.

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model, in this study both AIC and SC (Schwatz Criterion) scores are minimized in the ARMA (1,1) model.

Table 10. Approval Rate as a Function of Control Variables (ARMA model)

Dependent Variable= APPROVAL		
	ARMA Model 1	
Variables	Beta	T-test
Constant	56.077	22.255***
$POSITIVE_t$	2.178	3.024***
$_{t-1}$	3.754	4.587***
$_{t-2}$	2.158	2.624***
$_{t-3}$	2.009	2.491**
$_{t-4}$	0.804	1.123
$NEGATIVE_t$	-1.750	-2.870***
$_{t-1}$	-1.266	-1.899**
$_{t-2}$	-2.002	-2.816***
$_{t-3}$	-1.728	-2.573***
$_{t-4}$	-1.565	-2.582***
CPI_{t-1}	-0.204	-2.490**
$UNEMPLOY_{t-1}$	-0.223	-0.340
INAUGURATION	7.053	5.021***
SECOND	1.063	0.545
WATERGATE	-15.287	-4.443***
9/11	17.401	5.347***
AR(1)	0.924	45.842***
MA(1)	-0.157	-2.995***
F-test	156.181***	
Adjusted R^2	.855	
-2 L.L. (log likelihood)	2761.088	

Note. N=475, * p≤ .10, ** p≤.05, *** p≤.01

More specifically, while the ARMA Model 1 shows that the increases of two economic indexes are negatively associated with the approval rate (-.204 for CPI and –.223 for UNEMPLOY), only CPI is a statistically significant indicator

of the approval rate ($p \leq 05$). That is, as far as the economy is concerned, it is inflation (CPI) that guides public assessment of the incumbent president. Next, the result from the ARMA model show that the SECOND variable has no significant effect on the presidential approval, while the coefficient of INAUGURATION is still significant at .01 level in the model.

The biggest change from the baseline OLS model to the ARMA model is that the ARMA model confirms that the occurrence of political events are significantly associated with the following approval rates. While the baseline OLS model demonstrates only the influence of positive political events, the ARMA (1,1) model shows that both positive and negative events are statistically significant indicators of the following approval rates. Interestingly, the coefficient of the $\text{POSITIVE}_{t-i\ (i=0,\ 1,2,\ 3,\ 4)}$ tends to decrease as the lagged term (i) becomes larger after it reached to the peak at the first lag. So that after four months, the occurrence of the positive events has almost no influence on the approval rate ($b=.084$). On the contrary, the coefficients of the $\text{NEGATIVE}_{t-i\ (i=0,1,\ 2,\ 3,\ 4)}$ tend to reach to the peak at the second lag and even after two months the influence does not die off. That means that when an important political event occurs, the way it induces change on the presidential approval rate varies according to the nature of the political event. When a positive event happens, its causal influence on the approval rate reaches to the peak at its instant moment and the effect becomes distilled as time passes on. But, in the case of a negative event, its causal

influence on the presidential rate does not reach the peak at its instant moment; instead the result of Table 7 shows that the efficient reaches to the peak two months after the negative event occurs and the influence stays longer than that of positive events. Noticeably, the adjusted R^2 of the ARMA model is dramatically improved from the baseline OLS model to .855, and F-test shows that the overall model is significant at .01 level.

ADDITIVE/SUBTRACTIVE EFFECT OF THE *NYT* STORIES ON THE APPROVAL RATE

Given that the overall relationship between the approval rate and the independent variables that this study includes as controls is indicated appropriately by the test of the ARMA(1,1) model, this study now presents the analysis of the effect of the *NYT* presentations of the poll results on the following approval rates while controlling those variables. The effect of the *NYT* stories on the approval rate is investigated in two ways: first, in order to test how the indication of the majority by the *NYT* has influenced the approval rate, a set of new test variables, HIGH and LOW, are added to the given model; second, to see the effect of the indication of the *relative majority* on the approval rates, a set of new test variables, INCLINING and DECLINING, is added to the given model. More specifically, the following ARMA (1,1) models test following variables:

Table 11. Description of the Test Variables in the ARMA model

Test Variables		***Description***
When the *NYT* indicates Majority (Convergence)	HIGH	The number of the *NYT* stories indicating more than 60% presidential approval rate in a month.
	LOW	The number of the *NYT* stories indicating less than 40% presidential approval rate in a month.
When the *NYT* indicates *Relative* Majority (Change)	INCLINING	The number of the *NYT* stories indicating the presidential approval rate inclined since previous months in a month.
	DECLINING	The number of the *NYT* stories indicating the presidential approval rate declined since previous months in a month.

Given that the mean of the presidential approval rate moves around 50%, this study limits the range of two variables of indicating majority opinion within over 60% and under 40% respectively. Any *NYT* stories reporting any approval rate from 41 to 59% are not considered as indicating clearly the majority opinion on evaluating presidential job performance. All test variables are lagged from one to three months in order to account for the delay before the effect of the stories would be incorporated into the approval rate.

Table 12. Approval Rates as a Function of Control and Test Variables (ARMA model)

Dependent Variable = APPROVAL					
		ARMA model 2 (majority)		**ARMA model 3 (relative majority)**	
Variables		Beta	T-test	Beta	T-test
Constant		55.908	23.580***	56.294	21.560***
POSITIVE	$_{t}$	2.365	3.266***	2.265	3.152***
	$_{t-1}$	3.644	4.401***	3.467	4.262***
	$_{t-2}$	1.802	2.149**	1.775	2.161**
	$_{t-3}$	1.831	2.214**	1.989	2.461**
	$_{t-4}$	0.677	0.937	1.151	1.601
NEGATIVE	$_{t}$	-1.781	-2.904***	-1.770	-2.923***
	$_{t-1}$	-1.277	-1.918*	-1.113	-1.706**
	$_{t-2}$	-2.148	-3.017***	-1.877	-2.706***
	$_{t-3}$	-1.845	-2.745***	-1.417	-2.133**
	$_{t-4}$	-1.551	-2.546**	-1.434	-2.359**
CPI	$_{t-1}$	-0.195	-2.390**	-0.216	-2.684***
UNEMPLOY	$_{t-1}$	-0.219	-0.338	-0.256	-0.396
INAUGURATION		7.056	5.008***	6.999	4.970***
SECOND		1.230	0.634	0.915	0.475
WATERGATE		-14.7799	-4.268***	-15.342	-4.538***
9/11		16.923	5.190***	17.081	5.246***
HIGH	$_{t-1}$	0.373	1.299	-	-
	$_{t-2}$	0.495	1.593	-	-
	$_{t-3}$	0.065	0.228	-	-
LOW	$_{t-1}$	-0.694	-1.531	-	-
	$_{t-2}$	0.129	0.271	-	-
	$_{t-3}$	-0.575	-1.264	-	-
INCLINING	$_{t-1}$	-	-	**0.659**	**1.984****
	$_{t-2}$	-	-	0.296	0.822
	$_{t-3}$	-	-	0.087	0.264
DECLINING	$_{t-1}$	-	-	**-0.912**	**-3.047*****
	$_{t-2}$	-	-	-0.032	-0.101
	$_{t-3}$	-	-	-0.273	-0.925
AR(1)		0.919473	43.000***	0.931	47.974***
MA(1)		-0.165285	-3.063***	-0.203	-3.710***
F-test		118.091***		120.737***	
Adjusted R^2		.855		.858	
-2 L.L.		2752.354		2743.358	

Note. N=475, * p≤ .10, ** p≤.05, *** p≤.01

Table 12 reports a modest support to the hypothesis B-1. Before discussing the additive/subtractive effect of the *NYT* stories, the upper lines of the table reconfirm the general trends between the occurrence of political events and the approval rate. As indicated by the earlier models, the impact of a positive event reaches to the peak at its instant moment and decreases later, while the impact of a negative event is most evident two months after its occurrence and stays longer. Also, the models in Table 12 make it evident again that inflation change (CPI) and the inauguration of a new president (INAUGURATION) are significant indicators of the approval rate.

As for testing the additive/subtractive effect of the news stories, the analysis shows that when the *NYT* stories indicated a majority of opinion, either approving majority (HIGH) or disapproving majority (LOW), the impact of the indication is only marginally significant at 0.1 level. More specifically, the result of the ARMA (1,1) Model 2 shows that the impact of the *NYT* stories indicating approving majority on following approval rates is marginal at .10 level only two months after the report (P=.111). The result also notes that when the *NYT* stories indicated that the majority of the public disapproves of the presidential job performance, the impact of the news stories on following approval rates becomes marginal at the .10 level only at its first lag (p=.123). Considering that the model improvement from the previous model to the ARMA (1,1) Model 2 is not significant, it is hard to conclude that the simple indication of the majority has an

additive or subtractive effect on the following opinion polls with these marginally significant results. But, the overall trends between the *NYT* stories and the following approval rates should be noted. That is, the result of the ARMA Model 2 shows a trend that, after controlling the effect of other variables, the indication of an approving majority by the *NYT* stories is positively associated with the following approval rates, while the indication of a disapproving majority is, overall, negatively associated with the following rates.

The result from the ARMA (1,1) model 3 provides stronger support to the hypothesis B-1. The result from the ARMA Model 3 reports that when a *NYT* story indicated that the "relative majority" is approving the presidential job performance, .659 points of approving rates are added to the given approving rate in the following month ($p \leq .05$), after controlling other variables. The overall trend in the ARMA Model 3, when compared to the result of the ARMA Model 2, shows that the impact of the *NYT* stories is more immediate (that is, significant at the first time lag) and becomes smaller in the following months.

And, as for the test of the subtractive effect of the *NYT* stories indicating the "relative majority" of disapproval of the president, the causal association of the *NYT* stories is more obvious ($p \leq .01$); that means when the *NYT* reported that the "relative majority" disapproves of the president, the *NYT* report tends to induce more subtraction to the given decreasing approval rate. The result also shows that the impact of the *NYT* story indicating the "relative majority"

disapproves of the presidential job performance, the impact of the stories is not only significant, but the magnitude of the impact is larger than that of the story indicating the approving "relative majority" (b=-.901). Given that the model improvement from the ARMA Model 1 to the ARMA Model 3 is significant (χ^2 = 17.730) at .05 level, it is possible to conclude that after controlling the effect of other variables, the indication of the "relative majority" by the *NYT* has an additional/subtractive effect on the following opinion polls.

VOLATILITY OF THE APPROVAL RATE AND THE *NYT* STORIES ON THE APPROVAL RATE

Before investigating the association between the volatility of the approval rate and the *NYT* stories for the last 40 years, this study needs to confirm that the volatility of the approval rate has not been constant for the period of observation. While one of the simplest approaches to exploring this is to compare the standard deviations and the degrees of kurtosis across different periods, the method is not the best way to determine the volatility of approval rate because it does not control for the similarities and differences across different periods in any systematic way. Since, as confirmed earlier, the different political or economic context is causally associated with the approval rate, any test of volatility without considering these contexts is hard to provide any more than a simple trend on the volatility. And, another problem in this simple approach of using standard

deviations for measuring volatility is that the method cannot control the problem of auto-correlation among the volatility terms over time. As Engel (1982) proposes in his seminal work, for a time-series which has a propensity of AR(1), the volatility of the time-series needs to be measured by identifying the error variance (σ^2) conditioned on the time series, since the variances of the time-series tends to be auto-correlated over time.

Table 13. Variations in Approval Rates, 1963-2002

Period	*High Point*	*Low Point*	*Mean*	*S.D.*	*Kurtosis*
1963-1972 (n=120)	50	35	56.875	10.448	2.273
1973-1982 (n=120)	70	23	45.616	11.235	2.400
1983-1992 (n=120)	89	29	56.308	11.251	2.916
1993-2002 (n=120)	90	37	58.141	10.256	4.267
Overall (n=480)	90	23	54.235	11.887	3.201

A more formal approach to test the volatility (i.e., changing variance) across different periods is to test variance with the ARCH (autoregressive conditional heteroskedacity) model (Engel, 1982). The ARCH model is often used for a financial time-series that is stationary in the long run but its volatility is clustered in specific periods of time. The presence of ARCH means the variance at any time is a function of the square of the residuals in the previous period. That is, ARCH (1) model represents that when $Y_t = \alpha_o + \alpha_i X^i_{t-i} + \varepsilon_t$, ($X^i_t$ = independent

variables), the conditional variance (the volatility) of Y_t follows a function of $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2$ [40].

As discussed, one of the advantages of using this ARCH approach is that it enables one to test the changing variances of a time-series after controlling the effects of independent variables and auto-regression on the time-series. The presence of the ARCH can be tested by a relatively simple LM (Lagrange Multiplier) test (see, Hamilton, 1994, p.664)[41]. Applying this LM test to the baseline OLS model yields a χ^2 (d.f. =1) of 268.37, which is significant at .01 level, and thus rejects the null hypothesis of no ARCH(1) in the model. As the ARCH (1) confirmed, the conditional variance of the ARCH (1) model provides the following function as the volatility model for the last 40 years of the approval series (i.e., after controlling the effect of the independent variables and the first lagged auto-regression):

$$\sigma_t^2 = 12.139 + .929\varepsilon_{t-1}^2$$
$$\sigma_t = \sqrt{12.139 + .929\varepsilon_{t-1}^2}$$

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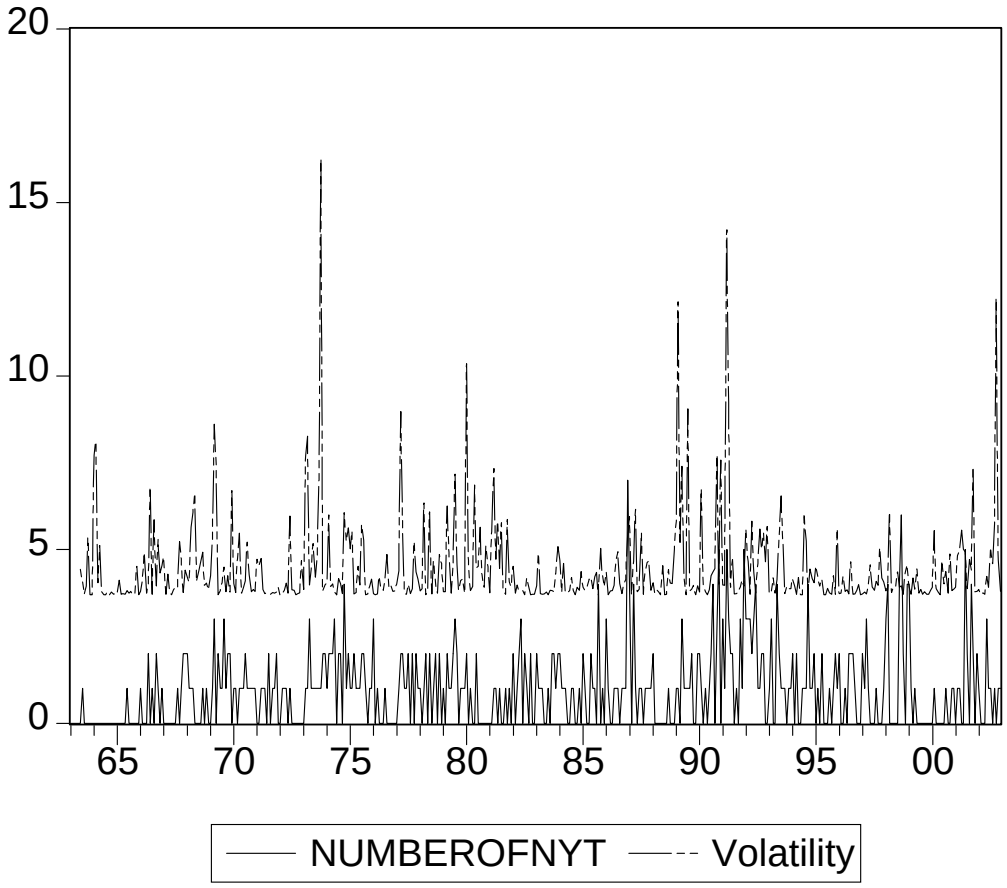
[40] For full description of ARCH model, see Engel (1982).

[41] In the case of ARCH (1), when the squared error of the OLS model (ε_t^2) is regressed on a constant and its own first lagged term, (i.e., $\varepsilon_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + e_t$), the function of LM=T*R^2 follows the distribution of chi-square with 1 degree of freedom (T = the number of sample, R^2 from the regression).

Figure 12. Volatility in Approval Rates and the Number of the *NYT* Stories, 1963-2002



As shown in Figure 12, the volatility of the presidential approval rates was relatively high in the 1970s and the early 80s, while the volatility of the mid 80s and the 90s was relatively low with a couple of exceptions (the Gulf War period and the September 11 period). Even after controlling the effects of political events and the auto-regressive conditional heteroskedacity, the volatility graph shows that volatility tends to be clustered around important political events such as the Watergate scandal (1972-1974), the hostage crisis in Iran (79-81), the Gulf War

(89-91), and the Sept.11 (2001-2002). The average level of the volatility in approval of the 1960s (1963-1972) is 4.505, the level slightly increased to 4.665 and 4.559 during the 70s and the 80s, but later in the 90s the level is down to 4.262.

In order to test the relationship between the changing volatility and the number of the *NYT* stories reporting, this study estimates the causal association between them by using the ARCH(1)-m model. The ARCH-m model is an innovative approach to enable one to see the mean level of changes and the variance level of change in a time-series, which has an auto-regressive tendency, while controlling the auto-regressive tendency in the mean level and the variance level of the time-series.

As this study hypothesized, the number of the *NYT* stories reporting the presidential approval rates is causally associated with the volatility of the approval series. This study included the variable of NUMOF*NYT* in the function of specification of the variance and it is lagged from one to three months in order to account for the delay before such information would be incorporated into the variance of the approval rate. Also, expecting that the presidential second term, which does not have significant effect in changing the approval rates in the mean level, have some influence on the variance of the approval series, this study added the SECOND variable to the variance function.

Table 14. The Changes in Approval Rates and Volatility (ARCH-m model)

Variable		*Beta*	*S.E.*
Mean Model (D.V.=APPROVAL)			
Constant		54.049***	4.180
POSITIVE	t	1.734**	0.708
	t-1	2.511***	0.763
	t-2	0.915	0.658
	t-3	1.188**	0.600
	t-4	0.231	0.575
NEGATIVE	t	-1.364**	0.546
	t-1	-0.603	0.566
	t-2	-1.552***	0.542
	t-3	-1.091**	0.619
	t-4	-1.063**	0.443
CPI	t-1	-0.163	0.108
UNEMPLOY	t-1	-1.050	0.884
INAUGURATION		9.139***	2.591
SECOND		0.453	2.695
WATERGATE		-23.294***	8.214
9/11		21.834***	8.061
AR(1)		0.9257***	0.017
MA(1)		-0.191***	0.061
Variance Model (D.V.= Volatility in Approval)			
Constant		12.130***	2.406
SECOND		-4.409*	2.711
NUMOF*NYT*	**t-1**	**3.247****	1.494
	t-2	-1.491	1.243
	t-3	1.347	1.720
ARCH(1)		0.363***	0.138
F-test		105.526	
Adjusted R^2		.846	
-2 L.L. (log likelihood)		2723.268	

Note. N=475, * p≤ .10, ** p≤.05, *** p≤.01

The results from Table 14 provide a good support to the hypothesis B-2. First, as expected, the result documents that the presidential approval rates has been less volatile when the president stays in his second term ($p \leq .10$). Although, statistically, marginally significant only at .10 level, the coefficient estimate indicates that public approval of the president is less volatile by 4.409 points during the second term. In addition, the model shows that the significant portion of the volatility (about 36%) in a month carries over into the next month. The coefficient of ARCH(1) is .363 and statistically significant at .01 level.

Most importantly, the result shows that increases in the number of the *NYT* stories reporting the presidential approval rates are positively associated with increasing volatility. The coefficient of the NUMOF*NYT* is significant at .05 level at its first lag. When the *NYT* presents one news story on reporting the presidential approval rate, the volatility in the following month also increases by 3.247 points. This result tells that the NYT reports bring more changing variance in the following approval rate. The importance of this result is that it enables us to synthesize two directional effects, as confirmed in the previous part (i.e, additive and subtractive effects of the *NYT* stories on the following approval rate), so that we can generalize the effect of the *NYT* stories regardless of their frames.

SUMMARY OF FINDINGS

The statistical tests confirm that there exists a reciprocal relation between the *NYT* reports and public evaluation of presidential performance, and the relation results in the intensification of majority opinion and the increased volatility of public opinion. First, this study found good evidence to support the hypotheses about the impact of convergence and change in public opinion on the *NYT*'s decision to report. The quadratic regression analysis showed that there exist U-shaped curvilinear relations between two testing variables of public opinion and the *NYT* reports. Increases in the degrees of convergence and in the margin of change are associated with an increasing number of the *NYT* reports. While showing the U-shaped relations, the tests also indicate that the overall slopes in the relation have negative values respectively; -2.872 ($p<.05$) for the relation between approval rates and the *NYT* reports, and –2.083 ($p<.05$) for the relation between the change in approval rates and the *NYT* reports. The negative slopes described that the *NYT* have been likely to report the presidential approval rate when the president stays in bad approval rates more than when the president enjoys high and inclining approval rates in general. The graphical displays, shown in Fig.9 and Fig.10, reinforced these results showing the U-shaped relation with overall negative slopes.

Second, time-series analyses provided a divided support to the hypothesis about the additive/subtractive effect of the *NYT* reports on the subsequent

approval rates. Investigation of the effect of the indication of *majority* and *relative majority* in the *NYT* reports found that only the indication of *relative majority* in the reports has brought an additive/subtractive change in the subsequent approval rates. While the analysis did not find any statistically significant association between the indication of *majority* and the following approval rates, the results show that when the *NYT* presents a report on the approval rate which indicates the *relative majority* of that time is supporting the president, the report brings .659 points addition to the given approval rate in the following month ($p<.05$). On the contrary, when the *NYT* presents a report on the approval rate that indicates the *relative majority* during that time disapproves of the president, the approval rate falls by -.912 points in the next month ($p<.05$).

Third, this study found that volatility has increased over the last forty years of the presidential approval series. This finding concurs with Gronke & Brehm (2002), showing the variance of the residuals has increased on the whole but temporarily declined during the second terms of presidency (-4.409, $p<.10$). In addition, the test of volatility through ARCH-m model confirmed the hypothesis about the relation between the volatility and the *NYT* reports. The analysis confirmed that the series of residuals have a propensity of AR(1), that means the time-series model has ARCH (1)—auto-regressive conditional heteroskedacity. The ARCH-m model showed that the residual terms are auto-correlated and thus about 36% of the variance of the residual is carried over into the next month.

After controlling ARCH (1), the test confirmed that the increase of the *NYT* report is positively associated with the increase of volatility in the next month. The result showed that whenever the *NYT* presented one more report on the presidential approval rate, the volatility of the approval rate increased by 3.247 points in the next month ($p<.05$).

Finally, in addition to the test variables, the analyses showed that the variances of control variables have statistically significant effects both on public opinion and the media reports. What this finding tells is that reality matters, too. Before people are affected by the media representation or other's perception of the reality, those control variables describing the changes in the real world have significant effects on the public opinion of presidential performance. Among those control variables, especially the occurrences of political events are strongly associated with the dependent variables. While the effects of both positive events and negative events are statistically significant and strong, positive events are more likely to affect public evaluation of the president at their immediate moments. On the contrary, the impact of negative events stays longer and peaks a couple months after their occurrences. Noticeably, Watergate was the worst of political events to have negative effects on presidential approval rate; on the other hand, the Sept.11th terrorist attack was the most influential event in gaining popular support for the president in the history of the presidential approval series.

Chapter.6. Discussion and Implications

> [R]ationalism may mean very different things. It means one thing if we think of the kind rationalization the systematic thinker performs on the image the world; an increasing theoretical mastery of reality by means of increasingly precise and abstract concepts. Rationalism means another thing if we think of the methodological attainment of a definitely given and practical end by means of an increasingly precise calculation of adequate means.
>
> – Max Weber, *The Social Psychology of the World Religions*.

> It is a form of power which makes individuals subjects. There are two meanings of the word subject: subject to some else by control and dependence, and tied to his own identity by a conscience of self-knowledge. Both meanings suggest a form of power which subjugates and makes subject to.
>
> – Michel Foucault, *Afterword: The Subject and Power*.

IMPLICATION TO THE SPIRAL OF SILENCE

This study began with the idea that public opinion is formulated in the cyclical process between public opinion itself and the media coverage of the public opinion (see, Stevenson et al., 1994). Theoretically, this study expected that the spiral of silence might provide an explanation for the cyclical relation that results in the intensification of the majority opinion and the increased volatility of the whole opinion series. Social-psychological concepts of the spiral of silence suggest that the social perception of presidential performance be formulated not

just by people's perception of presidential performance but also their perception of other's opinion. In general, the result of this study is consistent with the spiral of silence theory, showing that the media presentation of the presidential approval rate has an effect of raising the variance of the subsequent approval rates, and the variance is directionally congruent with the given change in the approval rates. It is obvious that the theory of the spiral of silence offers this study an insightful framework for explaining the dynamic process of formulating public opinion on presidential performance. But, in a particular sense, the spiral of silence is a somewhat unfinished project. As many studies, and Noelle-Neumann herself acknowledge, the dynamic of the spiral of silence is not always observed in all public opinion formulations; rather it is more likely to be defined as an issue-specific tendency that works with the issues of some ethical and social importance (Glynn & McLeod, 1985; Rimmer & Howard, 1990). In order to make sense of this result, closer inspection of some concepts is required.

In agenda-setting research, the varying degree of issues' importance has been speculated under the concept of issue *salience*. Unlike the spiral of silence, agenda-setting research found issue *salience* to the media and to the public as a *variable* which are, to some extent, influenced by each other. They point out that the salience of an issue to the public is not naturally given but moved up and down under the influence of the media. Applying some concepts of agenda-setting research, this study proposed that the salience of presidential approval rates to the media has not been constant; rather the media attention to them has significantly varied according to the given degrees of two attributes, *convergence* and *change*,

in public opinion on presidential performance. The findings of this study provided a qualified support for the argument that the varying degrees of *convergence* and *change* in presidential approval rates play a dynamic role upon the media coverage of the approval rates. In other words, the research findings support the notion that the high degrees of convergence and change in the presidential approval polls raise the salience of the approval rates to the media. Obviously, this study tested only the case of presidential approval rates and the *NYT* reports, and it is hard to generalize the findings to other issues without supporting studies that argue the salience of an issue is always highly raised when public opinion on the issue converges or changes radically. But, this study still implies that a certain condition of public opinion on an issue has a direct effect on the likeliness for the media to report the issue; i.e. public opinion on an issue is a significant factor of changing the salience of the issue. If this is the case, this may help the original insistence of the spiral of silence to explain why the fear of isolation is deeply related with the climate of opinion. In regards to individuals' fear of isolation, it can be argued that, even though there is no conclusive evidence that a certain climate of opinion has a direct effect of raising one's fear of isolation (see Kennamer, 1990), individuals find the climate of opinion threatening to their willingness to speak out when the salience of the opinion is raised high enough to draw significant attention from the media and the public.

One obvious question, though, that must be addressed is why the spiral of silence is observed only in the case of *relative majority* rather than *simple*

majority. The results of this study showed that the indication of simple majority by the *NYT* does not have significant influence on the subsequent rates but that the indication of relative majority has an effect on the spiral of silence. If the news media provided unambiguous information (i.e., a result of an opinion poll) that showed accurately the current distribution in the climate of opinion, then why would the indication of *simple majority* by the news media have almost no effect of shifting subsequent public opinion, while the indication of *relative majority* had significant effect of increasing the gap between the majority and the minority opinions? Perhaps this result confirms the notion that our statistical perception of climate of opinion is not scientifically accurate in nature; and thus, we are more likely to rely on heuristic information in assessing the given data (see Tversky & Kahneman, 1981). In a statistical sense, no matter how objective or accurate the information each news story presents regarding a series of events, we can hardly expect that individuals will get the most accurate perception of the events from the information. Regardless of the objectivity of each news story, we cannot estimate how accurately the news media represent the whole population of the series of events with a limited number of stories. In other words, since it is always possible that the news stories are a biased sample of the population, the indication of the objective data in the news stories itself cannot guarantee individuals get an accurate perception of the climate of opinion. In this sense, it is natural that individuals seek more information that can help them get a more complete perception of the climate of opinion. While it is obvious that further studies should attempt to investigate this more, the findings of this study may offer a

foundation for investigating the effect of media frames on individuals' perception of the climate of opinion.

In general, this study offers some insights about the cyclical process in shaping public opinion, providing qualified evidence of media effects in terms of the spiral of silence. The findings of this study can be summarized as following: First, media sensitivity to a given issue varies over time: the *convergence* (the extent of sharing a certain point of opinion) and *change* in public opinion raise the salience of the given issue; second, news selection does matter: news media provide unambiguous information but they are not an exact sample of the population; third, a simple cue makes a difference in individual statistical sense of the climate of public opinion. This study concludes that public opinion influences media attention, which, in turn, affects public opinion at a later date. While this study is not the first attempt to examine the cyclical process, it is still implicative that this study offers qualified empirical evidences of showing the cyclical process with a longitudinal series and confirms empirically that the cyclical process follows the spiral of silence.

BEYOND OBJECTIVITY, SOMETHING MORE JOURNALISTS NEED TO DO

According to Ulich Beck, German sociologist, modern rationalization means the reduction of any kind of random risks that humankind had had to live

with[42]. The rise of industrial production and the market economic system has reduced the unexpected risks that an individual might encounter in agricultural systems (such as the penalty of inclement weather conditions or other naturally occurring hazards on individuals' existence). Also, later developed welfare state has reduced the cost of random misfortunes on individuals' existence by engaging in once conceived private spheres with various governmental apparatuses. In the same sense, the development of the modern conceptual state apparatuses has decreased the possibilities of small conflicts and violent incidents within its territory. In short, systematic ways of calculating and controlling risks have been the essential nature of the modernity (Beck, 1992). This modern system of calculating and controlling risks is developed by assimilating private sectors of life into public arena. Replacing an individual's personal decisions and actions for resolving given problems, the public values of 'law and order' has shrunk the range of uncertainties which an individual happened to come across. Once conceived as private spheres, such as nutrition, education, and livelihood, have rapidly been assimilated to the public managements of risks. The assimilation of private spheres to public risk management has taken two different faces: one is that private spheres was getting absorbed into the civil society, which is often

[42] See U. Beck (1992/1986). Beck states "risk may be defined as a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself" (p.21). He argues that modernity marks a transition from a human condition where naturally occurring hazards and socially determined fortunes define the fate of individuals to a new condition where individual's fate is more likely decided by the our technological machineries to control nature.

represented as the public sphere; and the other face is being swallowed by the system world. The former represents the expansion of rationality (which does not necessarily mean logical ways of thinking, but rather rational ways of thinking earned from communicative interactions) among the members of a community so that the community frames private problems as collective concerns and attempts to manage them on the basis of community consensus. The latter way characterizes the growth of instrumental rationality in the forms of the routine and mechanistic practices for managing risks and the problems. While the former documents well the risk-management of the modernity, the latter shows the replacement of random risks with larger threats out of systematic hazards brought by the means of the modern machineries. In short, modernity has been the reduction of risks which may result of random personal misjudgments in decision-making process, but it, on the other hand, has also had characteristics of increasing the danger of uncertainties which may result from systematic misjudgments. Beck points out that that the explosiveness of the world risk we have witnessed in many incidents such as Chernobyl or New York on September 11th lies in the fact that our own systems represented in mass media, politics, and bureaucracy contradict the demands of rationality and responsibility in the contemporary society.

In conducting this project, this study began with a concern about how journalism, especially objective journalism, functions in democracy: that is, this

study wanted to explore how the public and the media interact to meet the responsibility of formulating rational opinion for communal problems. As the findings of this study support the hypotheses of the spiral of silence, this study confirms the basic idea of the spiral of silence that the formulation of public opinion tends to follow a process of amplifying *conformity* in a society. As Schudson (1997)[43] and others indicate, there are good numbers of scholars who believe that "conversation" is the central feature of democracy and the media need to provide the social space for the conversation whereby communicative rationality can be created. They call for incessant conversation in the space, i.e., the public sphere, not because conversation could lead to the discovery of universal knowledge about reality, but because only intersubjective conversation may lead to the increase of "solidarity" among participant subjects. That is, the conversational model of democracy sees intersubjective exchanges in the public sphere as a process of creating a public sharing where individuals with various perspectives can talk about collective problems, goals, ideals, and actions (Young, 1996). Critics, however, often point out that this conversational model of democracy hardly works in American society; rather American society tends to present conversation as a process for producing "conformity" over any differences among different subjects. As this process of amplifying conformity may exclude certain minority opinions in the dialogical process, the majority opinion tends to

[43] It should be noted that even though Shudson (1997) well summarize the conversational model

be easily transformed into the *common good*. When the public sphere functions to silence minority opinions and amplifying conformity, the conversation model of democracy can hardly sustain its purpose; rather the conversation itself becomes nothing but a machinery to impose the given majority opinion onto the public.

Journalism, especially American journalism, has served people under the guiding principle of "objectivity." The use of scientific opinion polls was an important part of the journalistic ethic of objectivity. While advocates of objective journalism believe that the ethical principle of objectivity can best serve as the rational deliberation of the public, critics often argue that journalistic objectivity, in fact, is far from rational deliberation and instead functions only as a tool for increasing efficiency and profit (Tuchman, 1978; Zelizer, 1990; Ognianova & Enderby, 1996). While journalism has used objectivity for its own efficiency and profit, the bigger problem, critics note, is that journalistic objectivity results in excluding minority opinions and legitimating the views of the dominant (Hackett, 1984). In this sense, the findings of this study offer an empirical case for the argument that journalistic objectivity itself cannot guarantee the rational deliberation of the public by showing that the objective presentation of public opinion by the use of opinion polls is not automatically linked to the best rational evaluation of presidential performance.

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of democracy, he does not agree with the idea of the conversational model of democracy.

Regarding the role of journalism in democracy, this study needs to propose that journalists do more beyond their ethical obligation of objectivity and take a new role of *rhetor* in maintaining the public sphere. Critics call for conversation as the central feature of democracy, not because conversation could lead to an undisputable consensus (majority opinion), but the deliberation process itself may lead to the increase of "solidarity" and "tolerance" among the participants. In this sense, the primary role of journalists is to maintain discursive and material coherence among different subjectivities. But it is important to note that the discursive and material coherence in the public sphere can be maintained only when rhetors can bring "differences" into the process of conversation. If rhetors fail to present "different" voices so that they remain "silent" voices, the inquiries of truth in the public are stymied, thus creating an "intellectual dead end" and causing the conversational model of democracy to fail. Given that opinion polls are deeply associated with public deliberation, as officials and journalists apply more and more polls for informing the public of policy proposals (Fuse, 2000; Gans, 2003), the results of this study highlight that besides objective presentation of the different voices, journalists should take a more active role of bringing in minority voices for the rational deliberation of the public.

FOR FUTURE STUDIES

This study is by no means conclusive. As with most macro-level studies on public opinion, the results of this study raised many questions which are perhaps best answered with supplemental micro-level analysis. Given that the results of this study can be replicated in different contexts, future research might explore, in a more detailed way, why the vulnerability of the public varies from time to time. An inherent weakness in a macro-level analysis is that the detailed mechanisms that create effects cannot be easily determined in the analysis (Smith, 1987). In this sense, more research is needed at the psychological level that could examine the relationship between the news media coverage and public opinion. More work needs to be carried out to identify how individuals become sensitive to the climate of opinion under the influence of the media and other surroundings.

Future studies should also note the limited boundary of the methodologies this study applied. One advantage of using time-series analysis is that it allows researchers to do a long-term analysis and, thus, show an interesting association between the media and public opinion beyond the chicken-or-egg debate (Wu et al., 2002). While time-series analysis offers a great potential for understanding the spiral dynamics of the media coverage and public attention to a certain issue, it is not easy to develop a necessary data set because not many surveys are conducted on a regular and consistent base. More longitudinal data sets could be developed

mainly by governments and other research institutions, and more academic attempts to take advantage of the given time-series data may encourage them to develop longitudinal data too. To advance our knowledge on the dynamics of public opinion, a more innovative approach to analyze the longitudinal data must be used along with other methodologies.

As far as presidential approval rates is concerned, the evidence of this study confirms that political events are important factors of evaluating a president's performance. The study also shows that the way political events affect public evaluation varies according to the characteristics of those political events. The findings of this study, however, are limited as this study investigates the varying effect of political events only within two categories, negative and positive, and, thus, could only provide symptomatic explanations on it. Given that political events can be categorized in more detailed ways (see Marra et al., 1990), future studies may find more interesting differences in the way political events influence public evaluation by taking an innovative approach.

Appendix A: Content Analysis Codebook

1. Protocol

Introduction
This news story codebook is aimed at assessing news frame in the coverage of public opinion polls on presidential approval ratings by the New York Times. It examines how the *NYT* frame a specific result of opinion polls into one of five news frames. The following definitions are important in selecting and analyzing the content under study.

News Story
In this study, news stories are limited only to the *New York Times* stories that cite specific poll results on presidential approval ratings. This means that a story that included a reference to general atmosphere about a President without citing a particular approval figure was excluded. This study also excluded news stories that pertained only to some specific dimension of popularity (e.g., approval of president's handling of foreign policy).

Source of Opinion Polls
A source of an opinion poll is usually an organization, which conduct a public opinion poll on presidential approval. Sources are explicitly identified when a news story credit a source, i.e. pollster, for the result of a public opinion poll.

Presidential Approval Rating
In this study, presidential approval rating is defined as *general public* evaluation of overall performance of the president in office. This means that a rating number by a specific group of people (such as Iowa farmers, Texas residents) is not counted as a presidential approval rating in this study. Presidential approval rating is often identified as a presidential popularity, approval of presidential performance, or approval of president's job handling in office in the news story.

News Frame
In this study, a news frame is defined as the way the news story present certain rating number with a specific meaning of "inclining," "remaining high," "unchanged," "remaining low," or "declining." Each frame is identified when a reporter organizes his/her discourse with a specific pattern of selection, emphasis, and exclusion. In this study, a news frame is identified by focusing on the news story's selection, emphasis, exclusion of high/low attributes of a presidential approval rating number along with the use of key words denoting the status of presidential approval ratings.

Key Words

How a certain number of approval rating is presented with the use of specific words denoting the status of the rating is key to identifying the news frame of each news story. In this study, the key words denoting the status of the rating are categorized as followings:

1) Inclining frame: "all time high," "climb," "gain," "hit new high point", "highest ever," "incline," "increase," "jump," "lift," "more than previous," "rebound," "rise," "soar," "up," etc.
2) Remaining high frame: "hover high," "maintain high," "match previous high," "steady high," "stable high," "remain high," "sustain high," etc.
3) Unchanged frame is identified by a) use of key words for remaining frame without any high/low specification, b) use of words such as "the same as," "unchanged," "no change," "equal to previous," etc., and/or c) no use of any inclining/declining key words.
4) Remaining low frame: "hover low," "maintain low," "match previous low," "steady low," "stable low," "remain low," "sustain low," "level off" etc.
5) Declining frame: "all time low," "dip," "drop," "decrease," "decline," "down," "fall," "hit new low," "lose," "less than previous," "lowest," "slip," "sink," "plunge," "plummet," etc.

Attribution

Attribution is identified when the news story credits a political or economical event (e.g., Lewinsky scandal, visit to a foreign country, or rise of oil price) for the current change or stability of presidential approval ratings. Attribution also may be made by connecting the current rating to the current status of an on-going political or economic situation (e.g., increase of war casualties, economic recession).

2. Coding Questions

1. Story ID _____

2. Story Day (month/day/year): ____/ ____/ _____

3. Is this news story published on the front page of the *New York Times*?[44]
   (1) Yes
   (2) No

[44] The front page refers to the first page of the *New York Times*. If the story begins in the first page but concludes in another page, the story is counted as published in the front page.

4. Source of Opinion Polls[45]: The source of opinion poll in this story is
   (1) Gallup Poll
   (2) Harris Poll
   (3) Rogers Poll
   (4) New York Times/CBS Poll
   (5) Other news media poll
   (6) Republic Party
   (7) Democratic Party
   (8) White House
   (9) Academic Institutions
   (0) Unknown/unavailable

5. Whose approval rating is measured by the opinion poll in this news story?
   (1) Eisenhower
   (2) Kennedy
   (3) Johnson
   (4) Nixon
   (5) Ford
   (6) Carter
   (7) Reagan
   (8) G. Bush
   (9) Clinton
   (0) W. Bush

6. What is the reported approval rating of the president in this news story?[46]: _____

7. What is the reported margin of approval change in this news story?[47] (from + 99 percent to – 99 percent): _____

8. Frame: The main frame of the news story is categorized as
   (1) inclining
   (2) remaining high
   (3) unchanged
   (4) remaining low
   (5) declining

[45] If more than one source is used, check all that can be applied
[46] Code 99, if unavailable.
[47] Code 99, if unavailable.

9. Attribution of Change/ Stability: describe briefly the reported reason of change in the news story.
    (1) International conflict involving US
    (2) Diplomatic policy/ summit meetings/ visit to foreign countries
    (3) Personal image/ leadership/ political scandals
    (4) President health
    (5) Domestic issues (budget, crime, tax, environment, social security)
    (6) Economic condition/ economic policy
    (7) Political procedures (midterm election, national convention, honeymoon period)
    (8) Watergate
    (9) 9/11
    (10) energy crisis/ oil price
    (11) Vietnam war
    (12) Presidential speech (State of the Union address)
    (13) Others

Appendix B: Coding of Political Events[48]

Date	*Event*	*Coding*
5/63	Integration crisis in Alabama	N
5/65	Dominican Republic crisis	P
8/65	Vietnam draft doubled	N
4/66	Vietnam protests	N
8/66	Race riots in Chicago	N
9/66	Race violence in Atlanta	N
8/67	Race riots	N
11/67	Vietnam protest	N
2/68	Tet offensive	N
4/68	Johnson announces end to bombing	P
5/68	Campus protests	N
9/68	Soviets move into Czechoslovakia	P
11/68	Johnson halts bombing in Vietnam	P
12/68	Lowest unemployment in fifteen years	P
4/69	Campus protests about Vietnam	N
8/69	Successful moon launch	P
12/69	Huge anti-war rally	N
6/70	Kent State shooting	N
6/70	Cambodian invasion	N
2/71	Laos invasion	N
4/71	Anti-war demonstrations	N
9/71	Nixon imposes wage-price controls	N

[48] Following the Brace-Hinckley classification scheme, political events were coded as follows: P=positive predicted; and N=negative predicted. Events from 1/1963-5/1988 were adapted from Brace and Hinkley (1992) and events from 6/1988-12/1998 were adapted from Gronke & Brehm (2002). Events from 1/1999-12/2002 were coded by the author.

2/72	Vietnam peace proposal announced	P
4/72	Increase in war and bombing	N
1/73	Vietnam peace accord	P
2/73	Watergate burglars convicted	N
3/73	McCord letter Sirica	N
5/73	Ervin Committee begins	N
6/73	Price freeze announced	N
7/73	Dean testifies	N
8/73	Agnew investigation revealed	N
9/73	Enrichman, Liddy, and other indicted	N
10/73	Saturday night massacre	N
11/73	Gap in tape revealed	N
4/74	House judiciary hearings begin	N
4/74	Nixon ordered to pay back taxes	N
5/74	Judiciary hearings continue	N
8/74	US v. Nixon announced	N
8/74	Articles of impeachment voted	N
10/74	Ford pardons Nixon	N
5/75	Cambodian falls	N
6/75	Mayaguez incident	P
9/78	Camp David Accords signed	P
12/79	Hostages first seized in Iran	P
1/80	Soviets invade Afghanistan	P
2/80	Inflation sets new record high	N
4/80	Helicopter rescue plan fails	N
5/80	Race rioting	N
3/81	Assassination attempt on Reagan	P
3/83	Soviets attack Korean airliner	P
10/83	Grenada invasion	P
3/84	Record deficit balance of payments	N

4/84	Bombing of Nicaraguan harbors	N
1/85	Cabinet shakeup	N
4/85	Bitburg controversy	N
7/85	Hostage incident	P
8/85	Reagan surgery	P
1/86	Space shuttle explodes	P
4/86	Libyan hostilities	P
5/86	Air strike on Libya	P
11/86	First Iran-Contra revelation	N
12/86	Reagan claims Iran-Cotra ignorance	N
3/87	Tower Committee report	N
3/87	Donald Reagan resigns	N
5/87	Iran-Contra hearings	N
5/87	Persian Gulf attack on US	P
6/87	Iran-Contra hearings continue	N
6/87	US escorts Kuwaiti tankers	P
10/87	Stock market plunges	N
11/87	Iran-Contra hearings continue	N
12/87	US-USSR treaty signed	P
1/88	Meese investigation	N
4/88	Justice Department investigated	N
4/88	Marines enter Panama	P
5/88	Senate ratifies INF treaty	P
3/89	Senate rejects Tower nomination	N
5/89	North convicted by Federal Jury	N
10/89	Dow Jones drops 190, 2nd largest in history	N
12/89	Bush announces end of Cold War	P
12/89	US invades Panama	P
4/90	Poindexter convicted	N
8/90	Iraq invades Kuwait, US	P

11/90	Treaty on nuke weapons in Europe	P
1/91	Desert Storm	P
3/91	No fly zone Iraq, shoot down plane	P
7/91	START treaty signed	P
9/91	Unilateral reduction in tactical nukes	P
10/91	Thomas hearings, Hill revelations	N
11/91	Wofford beats Thornburgh for PA senate	N
4/92	LA riots	N
1/93	START II signed	P
1/93	US attack on Iraqi missle/radar stations	P
2/93	Trade center Bombing	P
4/93	Waco siege and fire	N
5/93	Travelgate	N
6/94	US attacks Somali warlord	P
4/95	Oklahoma City bombing	N
6/95	O'Grady shot down in Bosnia	P
11/95	Government shutdown, 770,000 sent home	N
12/95	Government shutdown continues	N
6/96	Filegate, confidential FBI files	N
7/96	Olympic park bombing	N
9/96	US attacks Iraq	P
10/97	Asian crisis, Dow drops 554 points	N
7/98	Secret service testify, Lewinsky case	N
8/98	US embassies in Africa bombed	P
8/98	Lewinsky case, Clinton admits relationship	N
9/98	Starr presents impeachment case to House	N
10/98	House votes to impeach	N
12/98	US air strike against Iraq	P
1/99	Senate opens impeachment trial	N
2/99	Senate votes to acquit	P

4/99	Columbine high school shooting	N
4/01	Collision b/w US & Chinese air crafts, US aircrews detained	N
9/01	9/11 terrorist attacks in NY & DC	P
10/01	Air strikes in Afghanistan	P
12/01	Enron files bankruptcy	N
4/02	Israel/Palestine conflict intensifies	N
10/02	Sniper attacks in D.C. area	N

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